SOIL BORING AND MONITORING WELL INSTALLATION

DAYTON ELECTROPLATE, INC.
1030 VALLEY STREET
DAYTON, OHIO

PSARA

TECHNOLOGIES, INC.

December 16, 1999

Mr. Randy Watterworth
Ohio Environmental Protection Agency
Division of Emergency and Remedial Response
Southwest District Office
401 East Fifth Street
Dayton, Ohio 45402-2911

Regarding: Soil Boring and Monitoring Well Installation
Dayton Electroplate, Inc.
1030 Valley Street, Dayton, Ohio
Ohio EPA Mobilization Order No. 557-09
PN 60008.11

Dear Mr. Watterworth:

PSARA Technologies, Inc. (PSARA) is pleased to submit this letter report describing the installation of six soil borings and monitoring wells at the subject site (Figure 1). Midwest Environmental Drilling, under the direction of PSARA geologist, Mr. Tim O'Dowd, installed the borings/monitoring wells in the area around two former underground storage tank (UST) pits and other areas of interest (Figure 2). The following describes the field activities. All work was performed in accordance with PSARA's Work Plan dated August 16, 1999, and Ohio Environmental Protection Agency (EPA) Mobilization Order No. 557-09.

SUMMARY OF FIELD ACTIVITIES

Soil Boring and Soil Sampling

From August 23 through August 26, 1999, PSARA installed six soil borings/monitoring wells (MW-1 through MW-6) at the site. The soil boring locations are shown on the map in Figure 2.

Prior to the start of drilling, PSARA notified the Ohio Utilities Protection Service (OUPS), which instructed its members to mark the locations of underground utilities at the site. To further guard against drilling through mismarked or unknown underground utilities, the first 3 ft of each boring were advanced at a slow rate.

Borings were advanced using 4.25-in.-ID hollow-stem augers to an average depth of 42 ft. Soil samples were collected continuously from each boring using a 2-in.-diameter split-spoon sampler.

ENVIRONMENTAL
CONSULTANTS

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PSARA's onsite geologist described the samples in the field as the borings were advanced. In general, the soils encountered beneath the site consisted of undifferentiated fill material overlying poorly sorted sand and gravel. The fill apeared to be largely construction debris with visible brick, glass, and slag present. Fine-grained, well-sorted, multi-colored sand discovered between 2 and 3 ft below grade at boring SB-3 is believed to be foundry sand. The native soil comprises poorly sorted sand with gravel and silt. Numerous clayey layers and lenses and a few cobble layers were observed at various depths in each boring. Detailed descriptions of the subsurface material from each boring are presented in the Soil Boring Logs in Attachment A.

In general, groundwater was encountered within the sands at a depth of approximately 32 ft. Upon drilling into saturated conditions, "heaving" sands were observed to be flowing into the annulus of the hollow-stem augers. Where heaving was observed, split-spoon sampling was suspended so that the tools would not be lost.

The split-spoon sampler was decontaminated between each sample with a nonphosphate detergent wash and tap water rinse to prevent cross-contamination of samples. The augers, drill rods, and split-spoons were cleaned prior to and following drilling activities using a steam/pressure washer.

Soil vapor screening was conducted in the field using a photoionization detector (PID). The PID is factory calibrated annually. Also, before each use, a PSARA technician calibrates the PID according to the following procedure: fill then purge a plastic Tedlar bag with zero air; fill the Tedlar bag with a standard consisting of 100 ppm isobutylene balanced with zero air; insert the probe of the PID into the Tedlar bag and close it with an airtight seal; and adjust the instrument's span (calibration device) to read 56 ppm. During sample screening, the split-spoon sampler was opened to reveal the sample core, and the probe of the PID was held within 1 in. of the soil surface. The soil vapor analysis results are included on the Soil Boring Logs in Attachment A.

Monitoring Well Installation and Development

PSARA installed groundwater monitoring wells MW-1 through MW-6 to intercept first groundwater in the corresponding soil borings. Well construction consisted of 2-in.-diameter, flush-threaded polyvinylchloride (PVC) riser pipe coupled to a 10-ft section of 0.010-in. machine-slotted PVC well screen. The well screen was surrounded by a filter pack of coarse, washed quartz sand and sealed with a 2-ft layer of bentonite. Because the wells were installed into an aquifer with heaving sands, an unknown amount of each screen section is assumed to be surrounded by natural sand.

Following placement of the filter pack and bentonite seal, the remaining augers were removed from the boring, and the annulus was allowed to cave naturally. The remaining annulus was then filled with bentonite chips and topped with Portland cement. A locking well seal was placed on each well to prevent tampering. Further well protection was provided by a 5.5-in. boltdown, flush-mounted protective cover installed in a 2-ft by 2-ft concrete pad. Two wells, MW-3 and MW-6, were given further protection using standpipes and steel posts instead of the flush-mounted covers. Well construction details are presented on the Well Construction Diagrams in Attachment A.

On August 26 and 27, 1999, a PSARA geologist developed the newly installed wells to remove excess fine particulates. Prior to well development, PSARA measured the depth

to groundwater and checked each well for the presence of light nonaqueous-phase liquid (LNAPL) with an oil/water interface probe. No LNAPL was encountered on this date. Depth-to-groundwater measurements are reported on the Well Development Logs in Attachment B. Ground surface elevations, top-of-casing elevations,and depth-to-groundwater measurements obtained on September 29, 1999, are summarized in Table 1.

Monitoring well development consisted of surging each well with a Teflon surge block, then purging water from the well with a decontaminated submersible pump and dedicated tygon tubing. The pump was decontaminated between wells to prevent cross-contamination using a nonphosphate detergent wash, tap water rinse, and deionized water rinse. The well was determined to be properly developed when one of the following criteria had been met: 1) at least five well volumes of water had been removed, 2) the pH readings were within 0.2 S.U. of the corresponding measurement for the previous well volume and the specific conductance and temperature readings were within 10 percent of the corresponding measurements for the previous well volume, or 3) the well was purged dry. The surge block could not be used in MW-1 because of a slight bend in the PVC casing. The Well Development Logs are included in Attachment B.

Monitoring Well Surveying

PSARA contracted a registered surveyor to survey the locations and elevations of the newly installed wells. Wells were surveyed relative to mean sea level and Ohio State Plane coordinates. As a convention, a point on the north side of the PVC casing was used as a standard survey point. PSARA returned to the site on December 2, 1999, to survey the ground surface elevation at each well location. The results of this survey are included in Attachment C and listed in Table 1.

Management of Investigation-Derived Waste (IDW)

All auger cuttings from the installation of the six monitoring wells at the site were placed in 55-gal drums for future disposal by the Ohio EPA. Four composite samples were collected from these drums and analyzed for the toxicity characteristic by Quanterra Incorporated in North Canton, Ohio, in acordance with the U.S. EPA's Toxicity Characteristic Leaching Procedure (TCLP), Method 1311 (55FR 26986). All samples were non-detect for TCLP parameters. The laboratory analytical report is included in Attachment D.

Purge water from well development activities was collected in 5-gal buckets and transferred to an onsite sanitary sewer. This water was discharged to the sewer with the approval of the City of Dayton.

Variances

Due to difficulties associated with the heaving sands encountered in each boring, several modifications to the Approved Work Plan were required to complete the scope of work. Each variance to the Work Plan, along with the corrective action is listed below:

- Due to sand heave, complete filter packs were not installed. The natural sand that entered the auger annulus during well construction was allowed to remain.

- During drilling. it was noted that nearly the entire soil column consisted of sand and gravel. Upon determining that the drillers were unable to install a Portland Cement grout over the well seal. the decision was made in the field to allow the annulus to cave naturally.

- Difficulties were encountered during the installation of MW-1 and MW-6. Specifically. the bentonite seal became bridged during installation and jammed the well in the augers. These wells were consequently removed. redrilled. and reinstalled.

We appreciate the opportunity to assist the Ohio EPA with this project. If we can be of further assistance. please do not hesitate to call me.

Sincerely,

PSARA TECHNOLOGIES. INC.

Timothy P. O'Dowd
Project Geologist

Attachments

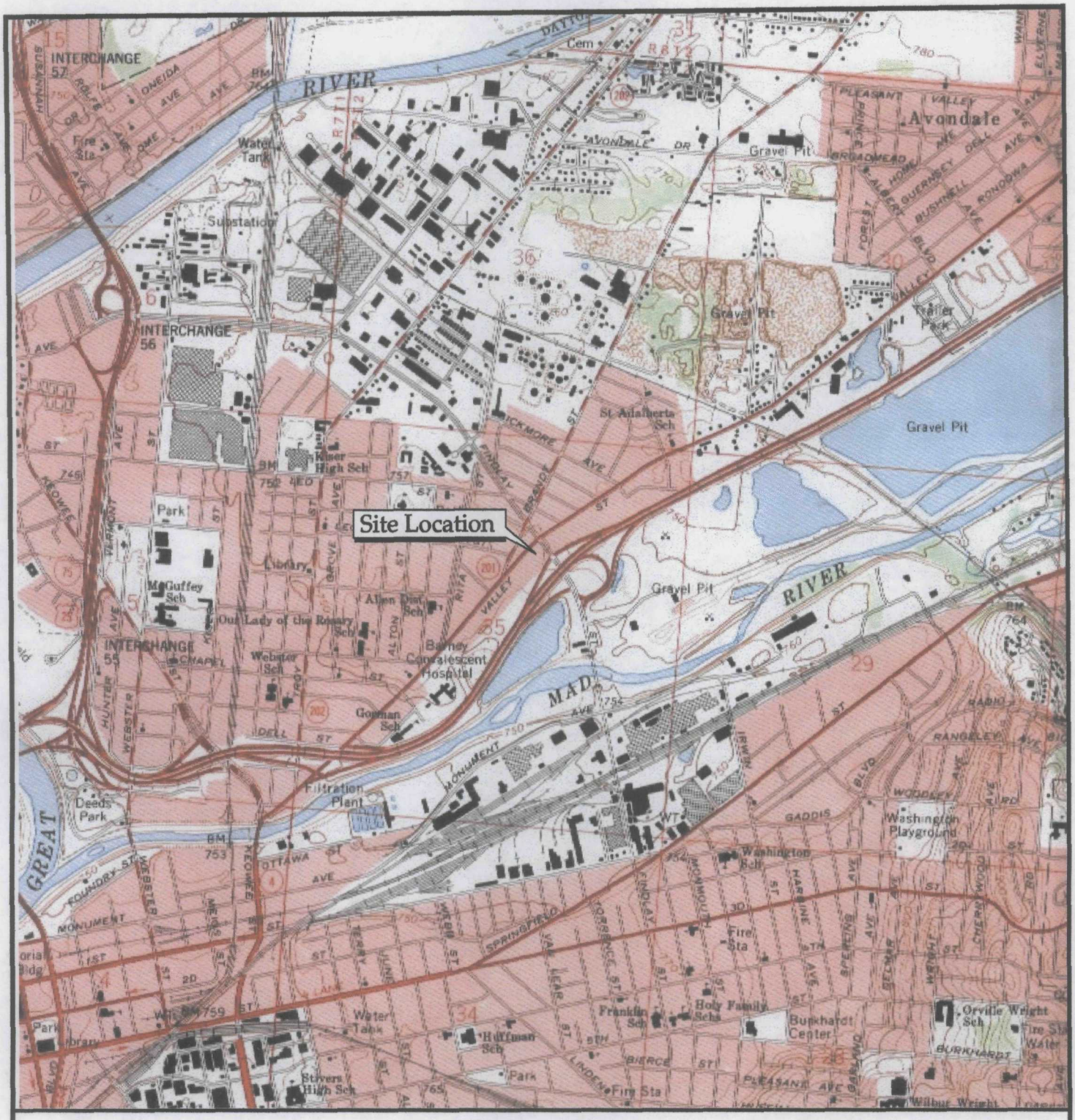
TABLES

Table 1. Groundwater Elevations
August 27, 1999
Dayton Electroplate, Inc.
1030 Valley Street, Dayton, Ohio

Well No.	Top of Casing Elevation, ft[a]	Ground surface Elevation, ft[a]	Depth to Groundwater, ft	Groundwater Elevation, ft[a]	LNAPL[b] Thickness, ft
MW-1	656.46	656.73	30.12	626.34	0
MW-2	657.38	657.62	33.69	623.69	0
MW-3	658.48	655.21	35.19	617.98	0
MW-4	654.44	654.25	27.77	626.67	0
MW-5	657.50	657.74	30.84	626.66	0
MW-6	660.21	657.53	33.31	626.90	0

[a] Elevation measured relative to mean sea level.
[b] LNAPL = light nonaqueous-phase liquid.

FIGURES



PSARA TECHNOLOGIES, INC.

Legend

USGS 7.5 Minute Quadrangle

Dayton North, Ohio

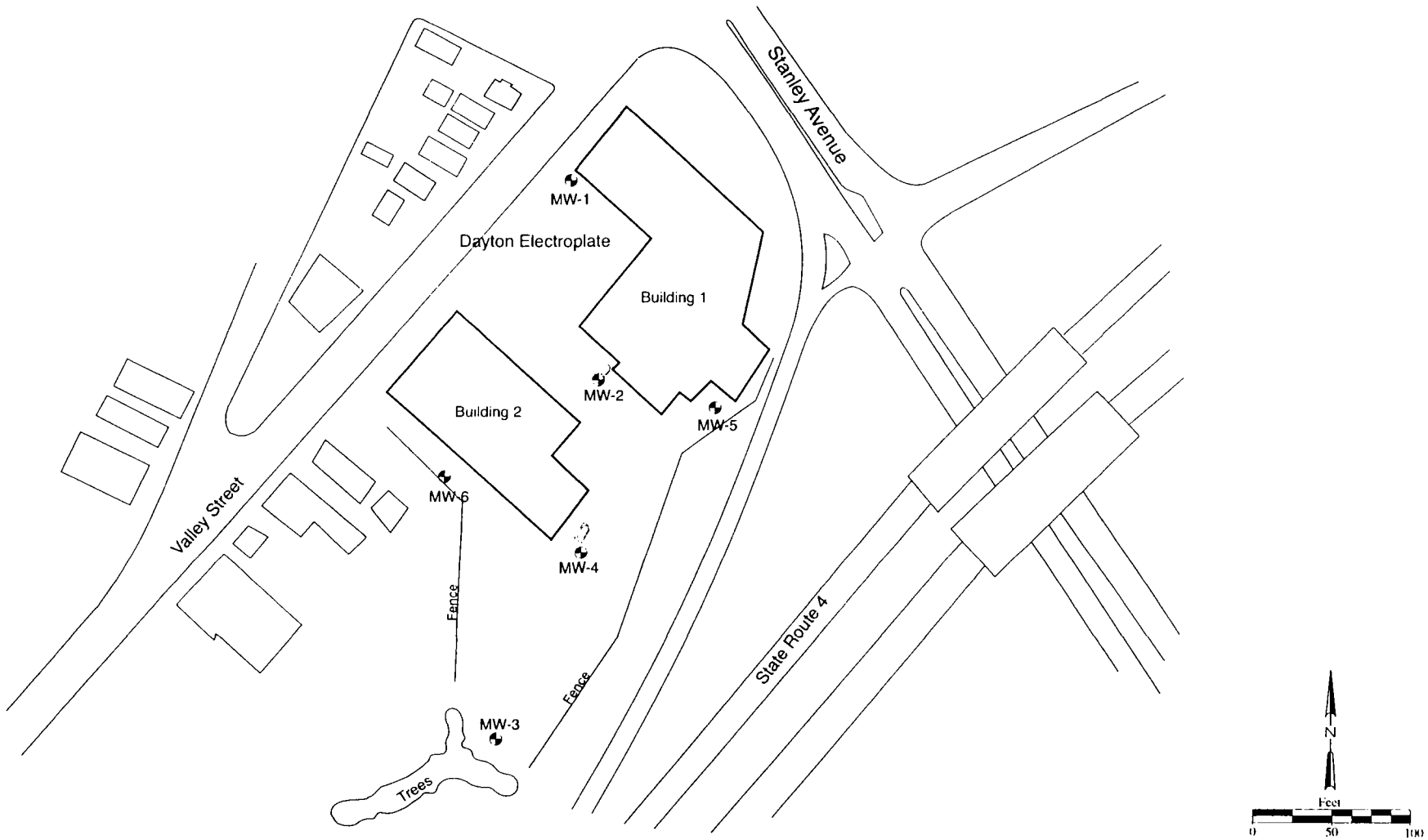
39084-G2-TF-024

revised 1992

OHIO EPA

Figure 1. Site Location Map
Dayton Electroplate, Inc.
1030 Valley Street
Dayton, Ohio

Drawn by:	*Date:*	*Scale:*
AKA	October 26, 1999	NTS



PSARA TECHNOLOGIES, INC.

LEGEND

MW-5 Monitoring Well Location

OHIO EPA

Figure 2.
Site Layout Map
Dayton Electroplate Site
Dayton, Montgomery County, Ohio

Project Number:	*Scale:*	*Checked By:*	*Drawn By:*	*Date:*
60008.11	1"=100'	SAS	RJS	8/4/99

ATTACHMENT A

Soil Boring Logs, Well Construction Diagrams, and ODNR Well Logs

PSARA TECHNOLOGIES, INC.

Soil Boring Log

Project No. 60008.11
Boring No. MW-1
Page 1 of 3

General Information

Client: Ohio Environmental Protection Agency	Boring No.: MW-1
Site Location: Dayton Electroplate, 1030 Valley Street	Date(s) Drilled: August 23, 1999
PSARA Geologist: Tim O'Dowd	Drilling Method / Borehole Size: 4.25" I.D. HSA
Drilling Contractor: Midwest Environmental Drilling	Total Depth of Borehole (ft): 42
Sampling Device: 2" X 24" Split Spoon	Depth to Water (ft): 31 ft
Headspace Screening Instrument: [X] PID [ ] FID	Well Installed: [X] Yes [ ] No Well No.: MW-1

Summary of Boring

Sample No.	Sample Depth (ft) From	Sample Depth (ft) To	Recovery (in)	Blow Count	Sample/Core Description	Headspace Reading (ppm) Total Organic	Headspace Reading (ppm) Total Methane
	0	2			Concrete, no sample taken.		
MW-1-0204	2	4	17	7-12-16-18	Fill material, 1/4" - 1" gravel, with some brown silty clay loam and gray sand, very unconsolidated, poorly sorted.	0	
MW-1-0406	4	6	20	10-10-12-12	Fill (4'-5.5'), same as above, w/ some red brick fragments. Sand w/ gravel (5.5'-6'), light brown, loose, poorly sorted sand, with approx. 50% 1/4"-1/2" gravel, probably still fill material.	0	
MW-1-0608	6	8	15	12-12-13-14	Sand w/ gravel (6'-8'), same as above.	0	
MW-1-0810	8	10	14	10-12-18-18	Sand & gravel (8'-9.25'), poorly sorted, grayish sand w/ 1/16" - 1" cobbles, some limestone cobbles about 1" in dia., some smaller sandstone cobbles fragments at 8.5', slight natural gas odor.	0	
MW-1-1012	10	12	18	25-16-16-16	Sand & gravel, same as above, upper 4" darker brown then gray sand, w/ 50% gravel, some large limestone cobbles about 1.5" dia.	0	

Notes

PSARA TECHNOLOGIES, INC.	Soil Boring Log	Project No. 60008.11 Boring No. MW-1 Page 2 of 3

Summary of Boring

Sample No.	Sample Depth (ft)		Recovery (in)	Blow Count	Sample/Core Description	Headspace Reading (ppm)	
	From	To				Total Organic	Total Methane
MW-1-1214	12	14	18	25-16-16-16	Sand w/ gravel (12'-12.5'), same as above.	0	
					Sand (12.5'-13') fairly abrupt contact w/ a		
					multi-colored, medium-grained, sand, wet, w/		
					approx. 30% gravel (1/16"-1/2" dia.), damp,		
					slight natural gas odor.		
MW-1-1416	14	16	16	20-20-20-20	Sand & gravel (14'-15.25'), very poorly sorted	0	
					sand w/ limestone, chert and sandstone		
					cobbles, 1/16"-1/8" in dia.		
MW-1-1618	16	18	12	10-10-11-12	Sand & gravel (16'-16.5'), same as above.	0	
					Sand (16.5'-17'), fine-grained, well sorted, light		
					brown sand, loose, damp, w/ some quartz		
					grains.		
MW-1-1820	18	20	12	12-12-12-14	Sand & gravel (18'-19'), poorly sorted, grayish	0	
					sand, w/ 1/16"-1" dia. cobbles, limestone &		
					chert, small 1" layer of fine-grained sand from		
					above in upper part of spoon.		
MW-1-2022	20	22	18	20-17-12-12	Sand & gravel (20'-21.5'), same as above,	0	
					small fine-grain sand stringer @ 20.75', very		
					poorly sorted throughout, same natural gas		
					odor.		
MW-1-2224	22	24	24	25-19-20-26	Sand & gravel (22'-23'), same as above.	0	
					Sand & gravel (23'-24'), abrupt contact w/ a		
					slightly better-sorted sand & gravel, iron		
					staining, smaller cobbles w/ a multi-colored		
					sand.		

Notes

FORM NO. 002.0

PSARA TECHNOLOGIES, INC.	Soil Boring Log	Project No. 60008.11 Boring No. MW-1 Page 3 of 3

Summary of Boring

Sample No.	Sample Depth (ft)		Recovery (in)	Blow Count	Sample/Core Description	Headspace Reading (ppm)	
	From	To				Total Organic	Total Methane
MW-1-2426	24	26	24	24-20-16-16	Sand & gravel (24'-25.5'), same as above.	0	
					Sand (25.5'-26'), fine-grained, soft, well sorted,		
					light brown sand, no gravel, some iron staining.		
MW-1-2628	26	28	24	40-18-20-25	Sand & gravel (26'-27'), poorly sorted, light	0	
					brown sand, w/ 1/4"-1/2" cobbles.		
					Sand (27'-27.5'), fine-grained, well sorted, light		
					brown sand, loose, some iron stains.		
					Sand & gravel (27.5'-28'), same as above, w/		
					large 1" dia. limestone fragments.		
MW-1-2830	28	30	20	28-25-25-25	Sand & gravel, same as above, getting more	0	
					damp, 1/4"-1" dia. cobbles.		
MW-1-3032	30	32	15	16-10-10-7	Sand & gravel (30'-30.75') , same as above. Sand	0	
					& gravel (30.75'-31.25'), abrupt contact w/ wet		
					poorly sorted sand & gravel.		
					Stopped split spoon sampling and drilled to 42		
					feet per Mr. Watterworth w/ OEPA.		

Notes

Ent'd by: TPO
Ck'd by: JMH
Date: 12/15/99

FORM NO. 002.0

PSARA TECHNOLOGIES, INC.

Soil Boring Log

Project No. 60008.11
Boring No. MW-2
Page 1 of 3

General Information

Client: Ohio Environmental Protection Agency	Boring No.: MW-2
Site Location: Dayton Electroplate. 1030 Valley Street	Date(s) Drilled: August 23, 1999
PSARA Geologist: Tim O'Dowd	Drilling Method / Borehole Size: 4.25" I.D. HSA
Drilling Contractor: Midwest Environmental Drilling	Total Depth of Borehole (ft): 42
Sampling Device: 2" X 24" Split Spoon	Depth to Water (ft): 30 ft
Headspace Screening Instrument: [X] PID [ ] FID	Well Installed: [X] Yes [ ] No Well No.: MW-2

Summary of Boring

Sample No.	Sample Depth (ft) From	Sample Depth (ft) To	Recovery (in)	Blow Count	Sample/Core Description	Headspace Reading (ppm) Total Organic	Headspace Reading (ppm) Total Methane
	0	2			Concrete & fill, no sample taken.		
MW-2-0204	2	4	20	2-2-3-3	Clay, light brown silty clay, plastic, w/ some large 1" cobbles, upper 3" of sample darker brown.	0	
MW-2-0406	4	6	6	2-2-3-4	Poor recovery, 3" of clay similar to above, sand & gravel last 3", poorly sorted light brown sand w/ large 1" dia. limestone cobbles.	0	
MW-2-0608	6	8	6	4-6-7-7	Clay, dark brown silty clay, very soft & plastic, w/ approx. 5% 1/8" dia. gravel.	0	
MW-2-0810	8	10	12	5-6-6-7	Clay (8'-8.25'), same as above. Sand & gravel (8.25'-9'), light brown, poorly sorted sand & gravel w/ 1/8" - 1" limestone & chert cobbles, slight "natural gas" odor.	0	
MW-2-1012	10	12	15	10-10-12-12	Sand & gravel, poorly sorted. multi-colored sand, w/ 50% 1/16" - 1" dia. gravel & cobbles.	0	
MW-2-1214	12	14	12	6-11-12-12	Sand & gravel, same as above.	0	
MW-2-1416	14	16	10	15-13-10-10	Sand & gravel, same as above.	0	

Notes

PSARA TECHNOLOGIES, INC.	**Soil Boring Log**	Project No. 60008.11 Boring No. MW-2 Page 2 of 3

Summary of Boring

Sample No.	Sample Depth (ft)		Recovery (in)	Blow Count	Sample/Core Description	Headspace Reading (ppm)	
	From	To				Total Organic	Total Methane
MW-2-1618	16	18	17	7-9-9-10	Sand & gravel, slightly better sorting, some moisture, some iron staining, same "natural gas" odor. -end of day-	0	
MW-2-1820	18	20	15	5-5-5-7	Sand & gravel, same as above.	0	
MW-2-2022	20	22	15	8-11-15-15	Sand & gravel, same as above, large 1" limestone cobbles throughout.	0	
MW-2-2224	22	24	17	6-25-30-30	Sand & gravel, same as above, with a small, light brown silty clay lense @ 22.25'.	0	
MW-2-2426	24	26	15	12-18-15-15	Sand & gravel, same as above, w/o the lense.	0	
MW-2-2628	26	28	18	15-20-25-27	Sand & gravel, same as above, consistently unsorted in entire boring so far.	0	
MW-2-2830	28	30	18	12-20-15-15	Sand & gravel, same as above, not as many large cobbles as above.	0	
MW-2-3032	30	32	12	12-9-7-7	Sand & gravel, multi-colored sand, w/ 1/8"-1/2" mixed cobbles, entire sample wet, water @ 30'.	0	
MW-2-3234	32	34	15	10-13-9-7	Sand & gravel, same as above, very wet.	0	
MW-2-3436	34	36	15	6-7-10-6	Sand & gravel, saturated, more gravel than above, approx. 50% 1/4"-1/2" dia.	0	
MW-2-3638	36	38	12	6-8-6-9	Sand & gravel, same as above, saturated.	0	
MW-2-3840	38	40	15	8-8-8-8	Sand & gravel, same as above, w/ 1" sand stringers @ 38.25' & 39', saturtated.	0	

Notes

PSARA TECHNOLOGIES, INC.	Soil Boring Log	Project No. 60008.11 Boring No. MW-2 Page 3 of 3

Summary of Boring

Sample No.	Sample Depth (ft)		Recovery (in)	Blow Count	Sample/Core Description	Headspace Reading (ppm)	
	From	To				Total Organic	Total Methane
MW-2-4042	40	42	24	12-15-20-24	Sand, medium-grained, multi-colored sand, w/ approx. 10% 1/8"-1/6" gravel, saturated.	0	

Notes

Ent'd by: TPO
Ck'd by: JMH
Date: 12-15-99

FORM NO. 002.0

PSARA TECHNOLOGIES, INC.	Soil Boring Log	Project No. 60008.11 Boring No. MW-3 Page 1 of 3

General Information

Client: Ohio Environmental Protection Agency	Boring No.: MW-3
Site Location: Dayton Electroplate. 1030 Valley Street	Date(s) Drilled: August 24. 1999
PSARA Geologist: Tim O'Dowd	Drilling Method / Borehole Size: 4.25" I.D. HSA
Drilling Contractor: Midwest Environmental Drilling	Total Depth of Borehole (ft): 40
Sampling Device: 2" X 24" Split Spoon	Depth to Water (ft): 32.5 ft
Headspace Screening Instrument: [X] PID [ ] FID	Well Installed: [X] Yes [ ] No Well No.: MW-3

Summary of Boring

Sample No.	Sample Depth (ft)		Recovery (in)	Blow Count	Sample/Core Description	Headspace Reading (ppm)	
	From	To				Total Organic	Total Methane
	0	2			Fill, no sample taken.		
MW-3-0204	2	4	12	6-3-3-3	Gravel & fill material (2'-2.25'), dark brown fill & gravel. Sand (2.25'-3') banded purple, gray, & brown, fine-grained sand, probably founders sand.	0	
MW-3-0406	4	6	10	2-2-2-2	Sand & gravel (3'-3.25'), black, stained, fine-grained sand, w/ a 1" limestone cobble, slight unknown odor.	0.7	
MW-3-0608	6	8	20	3-3-3-3	Sand, same as above, yellow, gray, black, no odor.	0	
MW-3-0810	8	10	22	4-2-2-2	Sand, same as above, no odor.	0	
MW-3-1012	10	12	20	5-3-2-2	Sand, same as above, no odor.	0	
MW-3-1214	12	14	12	5-1-1-1	Sand, same as above, 2" of "slag" at bottom of sample, porous pummice -like material, resultant of extreme heat, wet.	0	

Notes

FORM NO. 001.0

PSARA TECHNOLOGIES, INC.	Soil Boring Log	Project No. 60008.11 Boring No. MW-3 Page 2 of 3

Summary of Boring

Sample No.	Sample Depth (ft)		Recovery (in)	Blow Count	Sample/Core Description	Headspace Reading (ppm)	
	From	To				Total Organic	Total Methane
MW-3-1416	14	16	16	25-16-16-16	Sand (14'-14.25'), same as above, dry.	0	
					Clay (14.25'-15'), light reddish brown, silty clay		
					w/ approx. 20% 1/16"-1/4" gravel, plastic,		
					weathered.		
					Gravel (15'-15.25'), light brown yellowish clay		
					matrix w/ approx. 70% gravel, 3 inches.		
MW-3-1618	16	18	20	8-6-5-5	Clay (16'-16.5'), dark brown silty clay w/ gravel.	0	
					Sand & gravel (16.5'-17.75'), yellowish brown		
					med. -grained sand w/ approx. 50% 1/16"-1/4"		
					dia. cobbles, very dry.		
MW-3-1820	18	20	12	8-7-5-6	Sand & gravel, same as above.	0	
MW-3-2022	20	22	12	5-9-10-10	Sand & gravel, same as above.	0	
MW-3-2224	22	24	24	18-14-16-16	Sand & gravel, same as above, w/ somewhat	0	
					larger (1/2" dia.) gravel throughout.		
MW-3-2426	24	26	15	18-17-17-17	Sand & gravel, same as above, sand is coarser,	0	
					more gravel, approx. 60% 1/4"-1" dia.		
MW-3-2628	26	28	18	16-19-25-27	Sand & gravel, same as above, w/ slightly	0	
					smaller gravel.		
MW-3-2830	28	30	20	17-17-18-19	Sand & gravel, same as above.	n/a	
					PID temporarily out of order, moisure in display,		
					removed from rainy site conditions.		

Notes

PSARA TECHNOLOGIES, INC.	Soil Boring Log	Project No. 60008.11 Boring No. MW-3 Page 3 of 3

Summary of Boring

Sample No.	Sample Depth (ft)		Recovery (in)	Blow Count	Sample/Core Description	Headspace Reading (ppm)	
	From	To				Total Organic	Total Methane
MW-3-3032	30	32	15	19-20-22-23	Sand & gravel (30'-30.5'), same as above.	n/a	
					Sand (30.5'-31.25'), abrupt contact w/ a		
					multi-colored, med. -grained sand, loose, damp,		
					some iron staining.		
MW-3-3234	32	34	20	20-12-12-15	Sand w/ gravel (32'-32.5'), dry, approx. 30%	n/a	
					1/2"-1" gravel.		
					Sand (32.5'-33.75') med. -grained, wet sand, w/		
					approx. 20% 1/16"-1/8" dia. gravel, saturated,		
					water @ approx. 32.25'.		
MW-3-3436	34	36	20	12-14-20-12	Sand & gravel, med. -grained, multi-colored	n/a	
					sand, w/ approx. 30% 1/4"-1" dia. cobbles,		
					saturated.		
MW-3-3638	36	38	24	10-10-18-20	Sand, same sand but without the gravel, med.	n/a	
					grained to coarse multi-colored, saturated sand.		
MW-3-3840	38	40	24	60-22-28-40	Sand, same as above.	n/a	
					Went to drive next split spoon, approx. 5 ft of		
					sand had heaved into the augers.		
					Discontinued sampling, drilled to 44' and set		
					well @ 42'.		

Notes

Ent'd by: TPO
Ck'd by: JMH
Date: 12-15-99

FORM NO. 002.0

PSARA TECHNOLOGIES, INC.	**Soil Boring Log**	Project No. 60008.11 Boring No. MW-4 Page 1 of 3

General Information

Client: Ohio Environmental Protection Agency	Boring No.: MW-4
Site Location: Dayton Electroplate, 1030 Valley Street	Date(s) Drilled: August 25, 1999
PSARA Geologist: Tim O'Dowd	Drilling Method / Borehole Size: 4.25" I.D. HSA
Drilling Contractor: Midwest Environmental Drilling	Total Depth of Borehole (ft): 38
Sampling Device: 2" X 24" Split Spoon	Depth to Water (ft): 26 ft
Headspace Screening Instrument: [X] PID [ ] FID	Well Installed: [X] Yes [ ] No Well No.: MW-4

Summary of Boring

Sample No.	Sample Depth (ft) From	Sample Depth (ft) To	Recovery (in)	Blow Count	Sample/Core Description	Headspace Reading (ppm) Total Organic	Headspace Reading (ppm) Total Methane
	0	2			Gravel, no sample taken		
MW-4-0204	2	4		3-2-2-2	No recovery.		
MW-4-0406	4	6	8	2-1-1-1	Fill, dark brown, rusty, silty clay loam, w/ gravel, slag material, and glass.	0.3	
MW-4-0608	6	8	12	1-1-1-1	Fill, same as above.	0	
MW-4-0810	8	10	10	1-1-1-1	Fill, same as above, wet in lower 2 inches of sample, black pumice -like material throughout.	0	
MW-4-1012	10	12	8	1-1-1-1	Fill, same as above, brick fragments, black pumice-like material. Some silty wet clay in last inch of sample.	0	
MW-4-1214	12	14	17	1-1-1-3	Clay, light brownish gray silty clay, w/ approx. 10% 1/4" - 1/2" dia. gravel, some black coal-like fragments and iron-stained fragments, probably not native material.	0	

Notes

FORM NO. 001.0

PSARA TECHNOLOGIES, INC.	Soil Boring Log	Project No. 60008.11 Boring No. MW-4 Page 2 of 3

Summary of Boring

Sample No.	Sample Depth (ft)		Recovery (in)	Blow Count	Sample/Core Description	Headspace Reading (ppm)	
	From	To				Total Organic	Total Methane
MW-4-1416	14	16	12	1-2-3-5	Clay (14'-14.25'), light brown silty clay,	0	
					weathered, plastic.		
					Clay (14.25'-15'), light yellowish brown sandy		
					clay, w/ approx. 50% gravel (1/16"-1/4" dia.),		
					more sand w/ depth.		
MW-4-1618	16	18	2	3-13-20-23	Very little recovery, lots of cave-in from above,	0	
					w/ one large 2" dia. limestone cobble protruding		
					from the shoe of the spoon.		
MW-4-1820	18	20	12	13-15-19-20	Sand & gravel, light yellowish brown coarse	0	
					sand w/ approx. 40% 1/16"-1" cobbles,		
					"natural gas" type odor, very poorly sorted.		
MW-4-2022	20	22	10	15-15-18-20	Sand & gravel, same as above, large 1 1/2" dia.	0	
					limestone cobbles in last 2", 1" band of yellow		
					sand in upper part of spoon.		
MW-4-2224	22	24	20	8-10-10-10	Clay (22'-22.5'), dark brown sandy clay w/ gravel,	0	
					wet, approx. 20% 1/2" dia. gravel.		
					Sand & gravel (22.5'-23.75'), multi-colored,		
					coarse sand w/ 1/8"-1" gravel & cobbles, wet.		
MW-4-2426	24	26	6	15-16-18-18	Sand & gravel. limited recovery, same as above.	0	
MW-4-2628	26	28	17	8-9-10-10	Sand & gravel, coarse-grained, multi-colored	0	
					sand w/ 50% 1/4"-3/4" gravel, better sorted than		
					above, saturated.		

Notes

PSARA TECHNOLOGIES, INC.

Soil Boring Log

Project No. 60008.11
Boring No. MW-4
Page 3 of 3

Summary of Boring

Sample No.	Sample Depth (ft) From	Sample Depth (ft) To	Recovery (in)	Blow Count	Sample/Core Description	Headspace Reading (ppm) Total Organic	Headspace Reading (ppm) Total Methane
MW-4-2830	28	30	12	4-5-7-10	Sand & gravel, same as above, saturated, iron	0	
					staining in last inch of sample.		
MW-4-3032	30	32	12	5-7-12-12	Sand & gravel, same as above.	0	
MW-4-3234	32	34	2	6-9-13-16	Sand & gravel, same as above, poor recovery.	0	
					Sands are heaving. Discontinued		
					sampling, drilled to 38 ft and set well.		

Notes

Ent'd by: TPO
Ck'd by: JMH
Date: 12-15-99

FORM NO. 002.0

PSARA TECHNOLOGIES, INC.	Soil Boring Log	Project No. 60008.11 Boring No. MW-5 Page 1 of 3

General Information

Client: Ohio Environmental Protection Agency	Boring No.: MW-5
Site Location: Dayton Electroplate, 1030 Valley Street	Date(s) Drilled: August 25, 1999
PSARA Geologist: Tim O'Dowd	Drilling Method / Borehole Size: 4.25" I.D. HSA
Drilling Contractor: Midwest Environmental Drilling	Total Depth of Borehole (ft): 42
Sampling Device: 2" X 24" Split Spoon	Depth to Water (ft): 32 ft
Headspace Screening Instrument: [X] PID [ ] FID	Well Installed: [X] Yes [ ] No Well No.: MW-5

Summary of Boring

Sample No.	Sample Depth (ft)		Recovery (in)	Blow Count	Sample/Core Description	Headspace Reading (ppm)	
	From	To				Total Organic	Total Methane
	0	2			No sample, gravel parking lot.		
MW-5-0204	2	4	16	4-3-3-3	Fill (2'-2.25'), light brown / gray sand, fill & gravel.	0	
					Brick (2.25'-2.5'), red brick fragments.		
					Fill (2.5'-3.25'), black sandy fill & gravel, looks stained but no odor.		
MW-5-0406	4	6	16	4-1-1-1	Fill, black material like above, brick fragments, sand, & gravel, very mixed.	0	
MW-5-0608	6	8	18	6-12-18-20	Fill (6'-6.5'), same as above.	0	
					Sand & gravel (6.5'-7.5'), light brown, dry, med. grained sand, w/ approx. 30% 1/4"-1" dia. cobbles, mostly limestone, native material.		
MW-5-0810	8	10	12	6-12-18-14	Sand & gravel, same as above.	0	
MW-5-1012	10	12	15	8-12-16-18	Sand & gravel, same as above.	0	
MW-5-1214	12	14	12	8-12-14-7	Sand & gravel, same w/ one 2" limestone cobble @ 12'.	0	

Notes

PSARA TECHNOLOGIES, INC.

Soil Boring Log

Project No. 60008.11
Boring No. MW-5
Page 2 of 3

Summary of Boring

Sample No.	Sample Depth (ft) From	Sample Depth (ft) To	Recovery (in)	Blow Count	Sample/Core Description	Headspace Reading (ppm) Total Organic	Headspace Reading (ppm) Total Methane
MW-5-1416	14	16	16	10-12-16-23	Sand & gravel, same as above, fairly strong natural gas odor.	0	
MW-5-1618	16	18	18	15-15-15-18	Sand & gravel, changing over to a multicolored sand w/ approx. 50% assorted cobbles, some iron staining in lower 3" of sample, same odor.	0	
MW-5-1820	18	20	10	10-12-14-14	Sand & gravel, same as above.	0	
MW-5-2022	20	22	15	9-9-10-12	Sand & gravel, same as above.	0	
MW-5-2224	22	24	16	10-18-20-22	Sand & gravel, same as above.	0	
MW-5-2426	24	26	18	17-19-50/5	Sand & gravel, same as above, w/ larger cobbles, 1"-1 1/2", throughout.	0	
MW-5-2628	26	28	18	19-19-20-23	Sand & gravel, same as above, smaller cobbles in last foot of sample, 1/4"-1/2" dia.	0	
MW-5-2830	28	30	15	16-20-22-23	Sand & gravel, same as above.	0	
MW-5-3032	30	32	10	20-20-50/5	Sand & gravel, same as above.	0	
MW-5-3234	32	34	18	9-16-18-20	Sand & gravel, abrupt contact with a coarse-grained, saturated, multi-colored sand, w/ approx. 50% 1/16"-1" gravel and cobbles, very poorly sorted.	0	

Notes

PSARA TECHNOLOGIES, INC.	Soil Boring Log	Project No. 60008.11 Boring No. MW-5 Page 3 of 3

Summary of Boring

Sample No.	Sample Depth (ft)		Recovery (in)	Blow Count	Sample/Core Description	Headspace Reading (ppm)	
	From	To				Total Organic	Total Methane
MW-5-2830	34	36	18	15-19-20-19	Sand & gravel, same as above, w/ small lenses	0	
					of just coarse-grained sand, 3" thick @ 34.25		
					and 35', saturated, large limestone cobbles in		
					last 2 inches.	0	
				19-23-23-24	Sand & gravel, poor recovery, sands heaving.	0	
					Sands are heaving, discontinued		
					sampling, drilled to 42 ft and set well.		

Notes

Ent'd by: TPO
Ck'd by: JMH
Date: 12-15-99

FORM NO. 002.0

PSARA TECHNOLOGIES, INC.	Soil Boring Log	Project No. 60008.11 Boring No. MW-6 Page 1 of 3

General Information

Client: Ohio Environmental Protection Agency	Boring No.: MW-6
Site Location: Dayton Electroplate, 1030 Valley Street	Date(s) Drilled: August 26, 1999
PSARA Geologist: Tim O'Dowd	Drilling Method / Borehole Size: 4.25" I.D. HSA
Drilling Contractor: Midwest Environmental Drilling	Total Depth of Borehole (ft): 42
Sampling Device: 2" X 24" Split Spoon	Depth to Water (ft): 32 ft
Headspace Screening Instrument: ☒ PID ☐ FID	Well Installed: ☒ Yes ☐ No Well No.: MW-6

Summary of Boring

Sample No.	Sample Depth (ft)		Recovery (in)	Blow Count	Sample/Core Description	Headspace Reading (ppm)	
	From	To				Total Organic	Total Methane
	0	2			No sample, grass and top soil.		
MW-6-0204	2	4	18	15-17-19-20	Topsoil (2'-2.25'), dark brown silty clay loam.	0	
					Sand & gravel (2.25'-3.5'), light brown, med.-		
					grained sand w/ approx. 30% gravel, large		
					limestone gravel @ 2.25'-2.5', strong "natural		
					gas" odor.		
MW-6-0406	4	6	18	18-17-20-23	Sand & gravel, same as above, w/ more gravel	0	
					approx. 50% 1/8"-1" dia. gravel, slight odor.		
MW-6-0608	6	8	15	17-19-23-24	Sand & gravel, same as above, stronger odor.	0	
MW-6-0810	8	10	6	13-19-16-20	Sand & gravel, same as above, same odor as	0	
					above.		
MW-6-1012	10	12	6	13-16-17-17	Sand & gravel, same as above.	0	
MW-6-1214	12	14	16	15-16-17-30	Sand & gravel, same as above.	0	
MW-6-1416	14	16	14	30-17-19-20	Sand & gravel, same as above.	0	
MW-6-1618	16	18	16	17-14-10-10	Sand & gravel, same as above, strong	0	
					"natural gas" odor.		

Notes

PSARA TECHNOLOGIES, INC.

Soil Boring Log

Project No. 60008.11
Boring No. MW-6
Page 2 of 3

Summary of Boring

Sample No.	Sample Depth (ft) From	Sample Depth (ft) To	Recovery (in)	Blow Count	Sample/Core Description	Headspace Reading (ppm) Total Organic	Headspace Reading (ppm) Total Methane
MW-6-1820	18	20	16	10-12-16-23	Sand & gravel, same as above, w/ approx. 40% 1/4"-3/4" gravel fragments, same odor.	0	
MW-6-2022	20	22	15	10-10-12-16	Sand & gravel, same as above, with slightly larger gravel (1" dia.) throughout, some iron staining in lower 3" of sample.	0	
MW-6-2224	22	24	15	17-19-19-20	Sand & gravel, (22'-22.5') same as above. Sand (22.5'-23'), med. -grained with multi-colored, well sorted sand. Sand w/ gravel, same sand w/ approx. 25% 1/16"-1/4" gravel, band of yellow and red iron staining at contact w/ above.	0	
MW-6-2426	24	26	12	11-12-14-17	Sand & gravel, moist, multi-colored sand, w/ 1/16"- 11/2" dia. gravel & cobbles, poorly sorted.	0	
MW-6-2628	26	28	18	17-50/5	Sand, moist, multi-colored sand, w/ approx. 25% 1/8"-3/4" gravel, bands of iron staining @ 27', 2" thick, slight odor.	0	
MW-6-2830	28	30	10	12-18-50/5	Sand, same as above, moist.	0	
MW-6-3032	30	32	12	40-45-20-28	Sand & gravel (30'-30.5'), same sand w/ approx. 50% 1/4"-1" gravel. Sand (30.5'-31'), multi-colored, med-grained, sand, w/ approx. 20% 1/4"-3/4" dia. gravel in last inch of sample, wet.	0	

Notes

FORM NO. 002.0

PSARA TECHNOLOGIES, INC.

Soil Boring Log

Project No. 60008.11
Boring No. MW-6
Page 3 of 3

Summary of Boring

Sample No.	Sample Depth (ft) From	Sample Depth (ft) To	Recovery (in)	Blow Count	Sample/Core Description	Headspace Reading (ppm) Total Organic	Headspace Reading (ppm) Total Methane
MW-6-3234	32	34	18	12-18-18-20	Sand w/ gravel, same as above, saturated.	0	
MW-6-3436	34	36	24	9-9-14-15	Sand & gravel (34'-35'), same as above,	0	
					saturated.		
					Sand (35'-36'), multi-colored, wet,		
					med.-grained sand, less than 5% gravel,		
					saturated.		
					Sands are heaving. Discontinued		
					sampling, drilled to 42 ft and set well.		

Notes

Ent'd by: TPO
Ck'd by: JMH
Date: 12-15-99

FORM NO. 002.0

PSARA TECHNOLOGIES, INC.

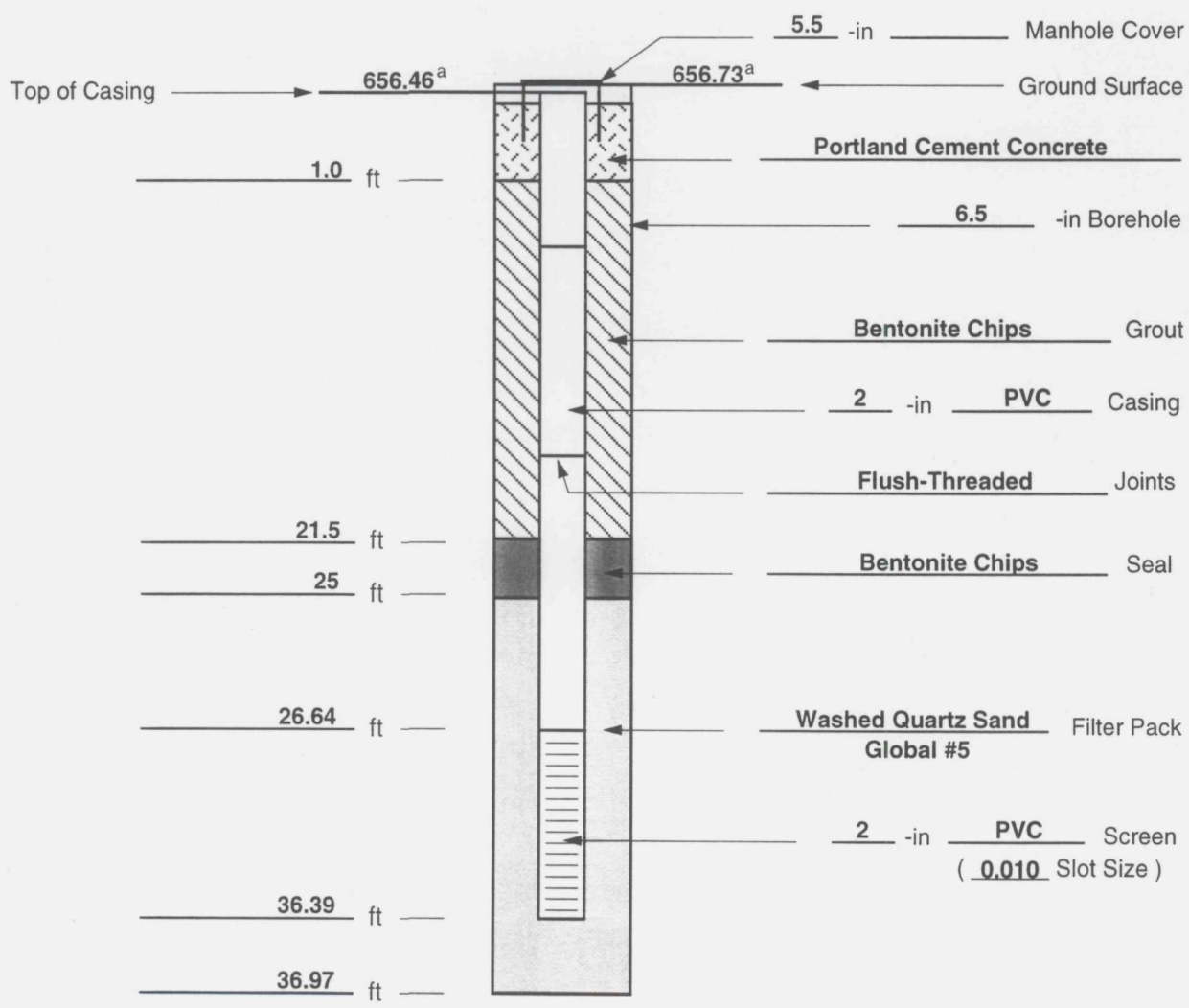
Well Construction Diagram

Project No. 60008.11
Well No. MW-1

General Information

Client: **Ohio Environmental Protection Agency**	Well No.: **MW-1**
Site Location: **Dayton Electroplate, 1030 Valley Street**	Date Completed: **8/23/99**
PSARA Geologist: **Tim O'Dowd**	Drilling Method: **Hollow Stem Auger**
Drilling Contractor: **Midwest Environmental**	Depth to Static Water (ft): **30.12 ft**

Construction Details



NOT TO SCALE

[a] elevation above mean sea level

FORM NO. 006.0

PSARA TECHNOLOGIES, INC.

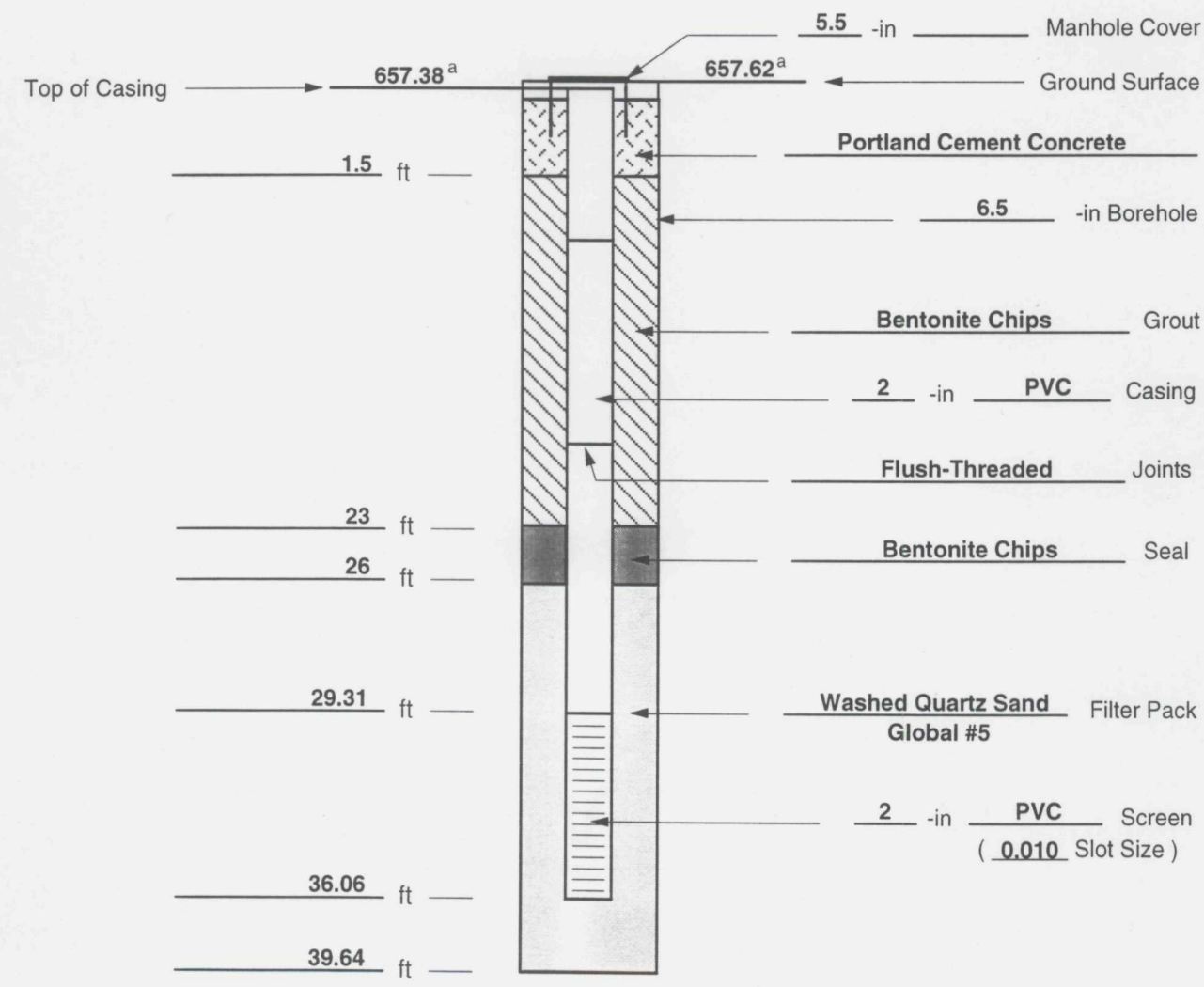
Well Construction Diagram

Project No. 60008.11
Well No. MW-2

General Information

Client: **Ohio Environmental Protection Agency**	Well No.: **MW-2**
Site Location: **Dayton Electroplate, 1030 Valley Street**	Date Completed: **8/24/99**
PSARA Geologist: **Tim O'Dowd**	Drilling Method: **Hollow Stem Auger**
Drilling Contractor: **Midwest Environmental**	Depth to Static Water (ft): **31.63 ft**

Construction Details



NOT TO SCALE

[a] elevation above mean sea level

FORM NO. 006.0

PSARA TECHNOLOGIES, INC.

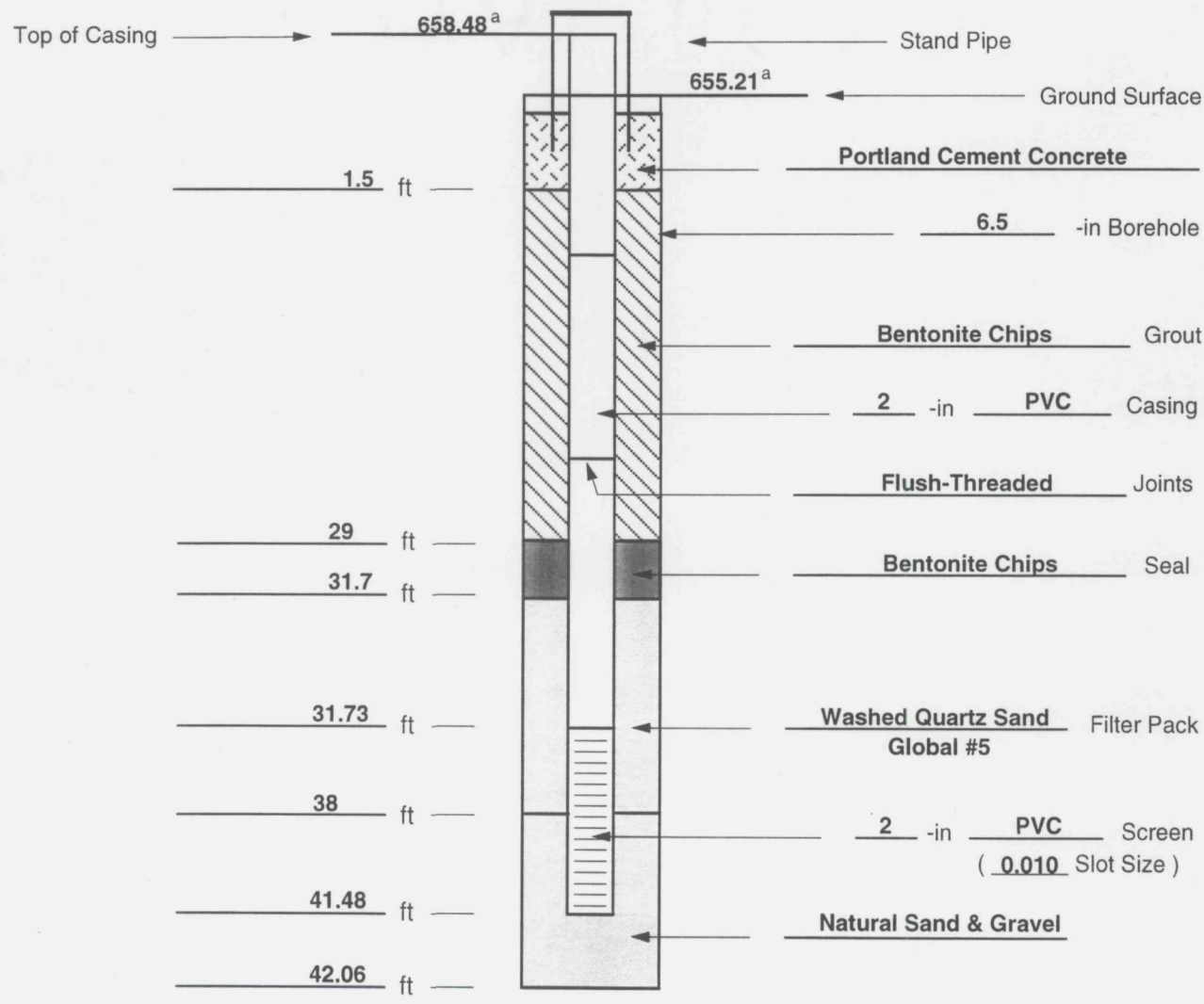
Well Construction Diagram

Project No. 60008.11
Well No. MW-3

General Information

Client: **Ohio Environmental Protection Agency**	Well No.: **MW-3**
Site Location: **Dayton Electroplate, 1030 Valley Street**	Date Completed: **8/24/99**
PSARA Geologist: **Tim O'Dowd**	Drilling Method: **Hollow Stem Auger**
Drilling Contractor: **Midwest Environmental**	Depth to Static Water (ft): **35.19 ft**

Construction Details



NOT TO SCALE

[a] elevation above mean sea level

FORM NO. 006.0

PSARA TECHNOLOGIES, INC.

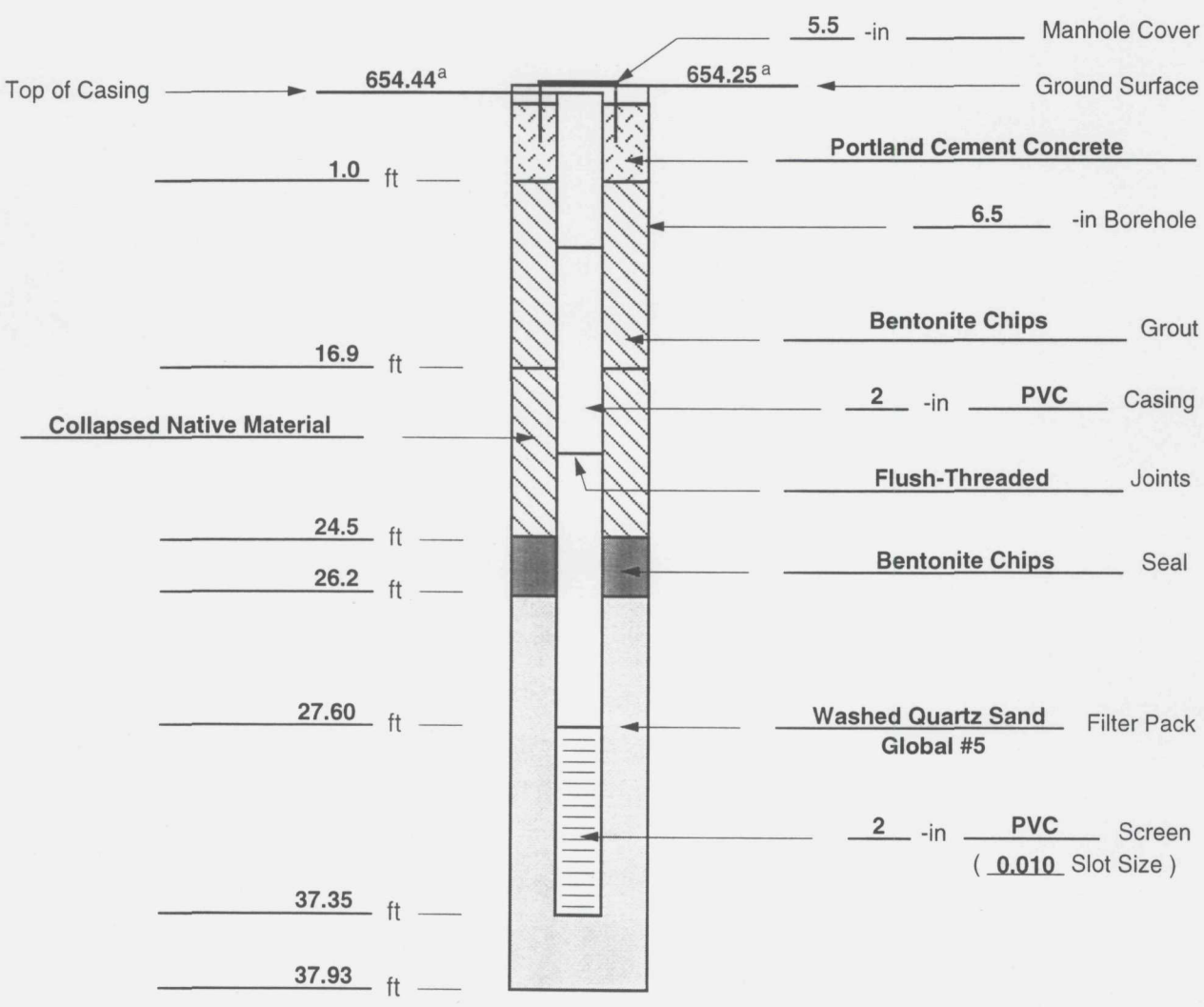
Well Construction Diagram

Project No. 60008.11
Well No. MW-4

General Information

Client: **Ohio Environmental Protection Agency**	Well No.: **MW-4**
Site Location: **Dayton Electroplate, 1030 Valley Street**	Date Completed: **8/25/99**
PSARA Geologist: **Tim O'Dowd**	Drilling Method: **Hollow Stem Auger**
Drilling Contractor: **Midwest Environmental**	Depth to Static Water (ft): **30.23 ft**

Construction Details



NOT TO SCALE

[a] elevation above mean sea level

FORM NO. 006.0

PSARA TECHNOLOGIES, INC.

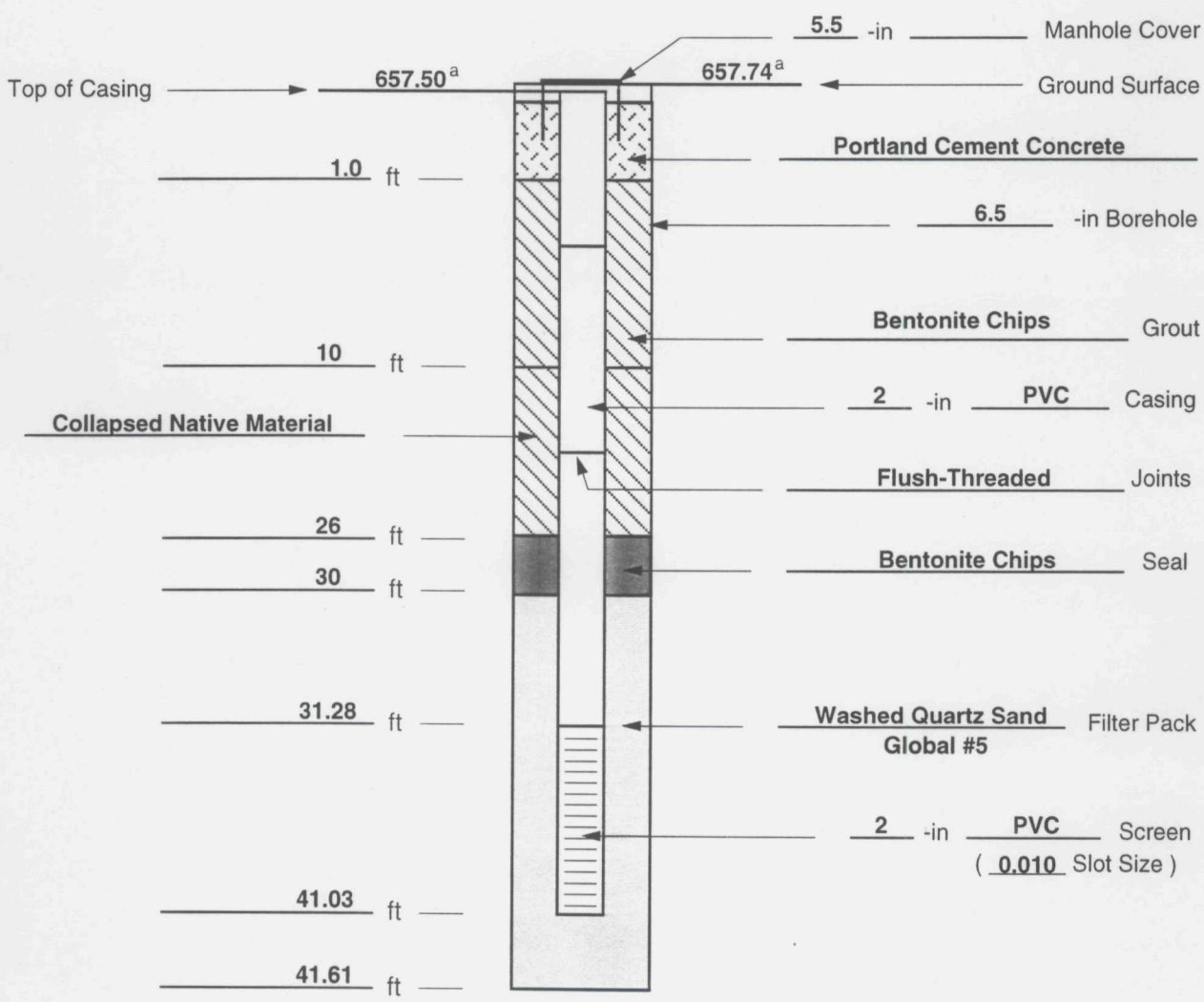
Well Construction Diagram

Project No. 60008.11
Well No. MW-5

General Information

Client: **Ohio Environmental Protection Agency**	Well No.: **MW-5**
Site Location: **Dayton Electroplate, 1030 Valley Street**	Date Completed: **8/25/99**
PSARA Geologist: **Tim O'Dowd**	Drilling Method: **Hollow Stem Auger**
Drilling Contractor: **Midwest Environmental**	Depth to Static Water (ft): **33.48 ft**

Construction Details



NOT TO SCALE

[a] elevation above mean sea level

FORM NO. 006.0

PSARA TECHNOLOGIES, INC.

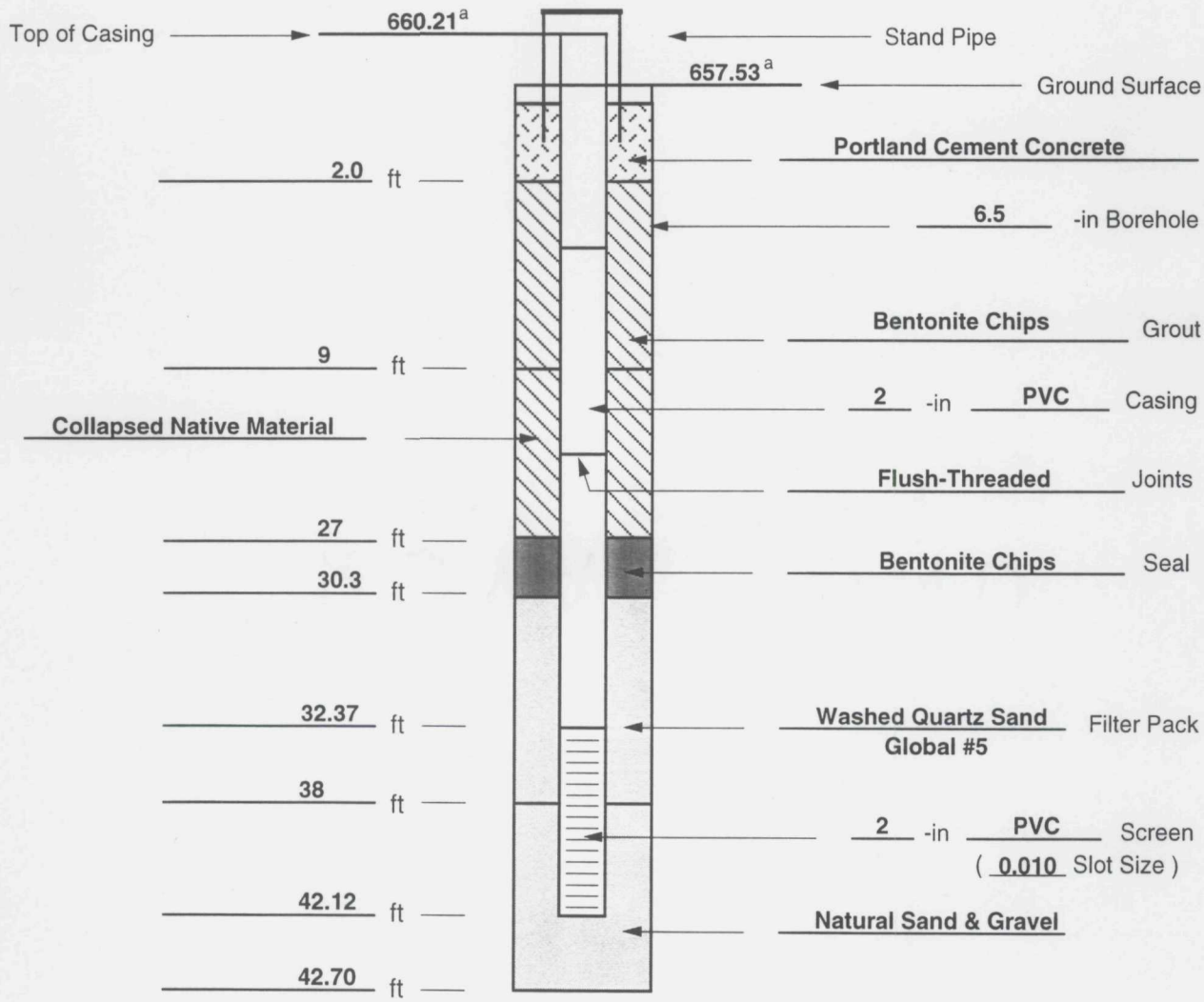
Well Construction Diagram

Project No. 60008.11
Well No. MW-6

General Information

Client: **Ohio Environmental Protection Agency**	Well No.: **MW-6**
Site Location: **Dayton Electroplate, 1030 Valley Street**	Date Completed: **8/26/99**
PSARA Geologist: **Tim O'Dowd**	Drilling Method: **Hollow Stem Auger**
Drilling Contractor: **Midwest Environmental**	Depth to Static Water (ft): **33.31 ft**

Construction Details



NOT TO SCALE

[a] elevation above mean sea level

FORM NO. 006.0

TYPE OR USE PEN
SELF TRANSCRIBING
PRESS HARD

Ohio Department of Natural Resources, Division of Water
1939 Fountain Square Drive, Columbus, Ohio 43224 Phone (614) 265-6739

Permit Number N/A

COUNTY Montgomery TOWNSHIP 2 SECTION/LOT No. 35 (CIRCLE ONE)

OWNER/BUILDER (CIRCLE ONE OR BOTH) Dayton Electroplate PROPERTY ADDRESS 1030 Valley ST Dayton OH (ADDRESS OF WELL LOCATION A)

LOCATION OF PROPERTY Same

CONSTRUCTION DETAILS MW-1

CASING
Borehole Diameter 8 in.
(1) Diameter 2 in. Length 26.64 ft. Wall Thickness Sch 40 in.
(2) Diameter ____ in. Length ____ ft. Wall Thickness ____ in.
Type: (1) (2) Steel (1) (2) Galv. (1) (2) PVC (1) (2) Other
Joints: (1) (2) Threaded (1) (2) Welded (1) (2) Solvent (1) (2) Other
Liner: Length ____ Type ____ Wall Thickness ____ in.

SCREEN
Type (wire wrapped, louvered, etc.) Slotted Material PVC
Length 10 ft. Diameter 2" in.
Set between 26 ft. and 36 ft. Slot 0.010

GROUT
Material Bentonite Volume used 8 50lb bag
Method of installation HSA
Depth: placed from 2' ft. to 24

GRAVEL PACK (Filter Pack)
Material #.5 Sand Volume used 12 50lb bag
Method of installation HSA
Depth: placed from 36 ft. to 24

Pitless Device ☐ Adapter ☐ Preassembled unit
Use of Well MW manhole cover
☐ Rotary ☐ Cable ☑ Augered ☐ Driven ☐ Dug ☐ Other
Date of Completion 8-23-99

WELL LOG*

INDICATE DEPTH(S) AT WHICH WATER IS ENCOUNTERED.

Show color, texture, hardness, and formation: sandstone, shale, limestone, gravel, clay, sand, etc.	From	To
Sand + Gravel, Brown	0	36.97
MW-1		

WELL TEST

☐ Bailing ☐ Pumping* ☐ Other
Test rate N/A gpm Duration of test ____ hr
Drawdown ____
Measured from: ☐ top of casing ☑ ground level ☐ Other
Static Level (depth to water) ____ ft. Date: ____
Quality (clear, cloudy, taste, odor) ____
*(Attach a copy of the pumping test record, per section 1521.05, ORC)

PUMP

Type of pump N/A Capacity ____ gpm
Pump set at ____ ft
Pump installed by ____

SKETCH SHOWING WELL LOCATION

Show distances well lies from numbered state highways, street intersections, county roads, etc.

N

please see Attachment

W E

S

*If additional space is needed to complete well log, use next consecutively numbered form

I hereby certify the information given is accurate and correct to the best of my knowledge.

Drilling Firm MED Signed [signature]

Address 11405 Century Circle Date 8-23-99

City, State, Zip Cincinnati OH 45246 ODH Registration Number N/A

Completion of this form is required by section 1521.05, Ohio Revised Code - file within 30 days after completion of drilling

ORIGINAL COPY TO - ODNR, DIVISION OF WATER, 1939 FOUNTAIN SQ. DRIVE, COLS., OHIO 43224

TYPE OR USE PEN
SELF TRANSCRIBING
PRESS HARD

Ohio Department of Natural Resources, Divison of Water
1939 Fountain Square Drive, Columbus, Ohio 43224 Phone (614) 265-6739

Permit Number N/A

COUNTY Montgomery TOWNSHIP 2 SECTION/LOT No. (CIRCLE ONE) 35

OWNER/BUILDER (CIRCLE ONE OR BOTH) Dayton Electroplatic PROPERTY ADDRESS (ADDRESS OF WELL LOCATION) 1030 Valley ST Dayton Oh

LOCATION OF PROPERTY Same

CONSTRUCTION DETAILS

CASING Borehole Diameter 8 in.

1 Diameter 2 in. Length 29 ft. Wall Thickness Sch 40 in.
2 Diameter ____ in. Length ____ ft. Wall Thickness ____ in.

Type: 1 Steel 1 Galv. 1 (2) PVC 1 2 Other
Joints: 1 (2) Threaded 1 2 Welded 1 2 Solvent 1 2 Other ____
Liner: Length ____ Type ____ Wall Thickness Sch 40 in.

SCREEN
Type (wire wrapped, louvered, etc.) Slotted Material PVC
Length 10 ft. Diameter 2" in.
Set between 29 ft. and 39 ft. Slot 0.010

GROUT
Material Bentonite Volume used 9 50LB. bag
Method of installation HSA
Depth: placed from 26 ft. to 2

GRAVEL PACK (Filter Pack)
Material #5 Sand Volume used 10-50 LB bags
Method of installation HSA
Depth: placed from 36.06 ft. to 26

Pitless Device Adapter Preassembled unit
Use of Well MW monitor cover.
Rotary Cable (2) Augered Driven Dug Other
Date of Completion 8-24-99

WELL LOG*

INDICATE DEPTH(S) AT WHICH WATER IS ENCOUNTERED.

Show color, texture, hardness, and formation: sandstone, shale, limestone, gravel, clay, sand, etc.	From	To
Sand & Gravel, Brown	0	39.64
MW-2		

WELL TEST

Bailing Pumping* Other ____
Test rate N/A gpm Duration of test ____ hr
Drawdown
Measured from: top of casing ground level Other ____
Static Level (depth to water) ____ ft. Date: ____
Quality (clear, cloudy, taste, odor) ____

*(Attach a copy of the pumping test record, per section 1521.05, ORC)

PUMP

Type of pump ____ Capacity ____ gpm
Pump set at ____ ft
Pump installed by N/A

SKETCH SHOWING WELL LOCATION

Show distances well lies from numbered state highways, street intersections, county roads, etc.

N

See Attachment

W E

S

*If additional space is needed to complete well log, use next consecutively numbered form

I hereby certify the information given is accurate and correct to the best of my knowledge.

Drilling Firm MED Signed ____

Address 11405 Century Circle Date 8-24-99

City, State, Zip Cincinnati OH 45246 ODH Registration Number N/A

Completion of this form is required by section 1521.05, Ohio Revised Code - file within 30 days after completion of drilling.

ORIGINAL COPY TO - ODNR, DIVISION OF WATER, 1939 FOUNTAIN SQ. DRIVE, COLS., OHIO 43224

Blue - Customer's copy, Pink - Driller's copy, Green - Local Health Dept. copy

TYPE OR USE PEN
SELF TRANSCRIBING
PRESS HARD

Ohio Department of Natural Resources, Division of Water
1939 Fountain Square Drive, Columbus, Ohio 43224 Phone (614) 265-6739

Permit Number N/A

COUNTY Montgomery TOWNSHIP 2 SECTION/LOT No. 35 (CIRCLE ONE)

OWNER/BUILDER (CIRCLE ONE OR BOTH) Dayton Electroplate PROPERTY ADDRESS 1030 Valley St. Dayton O (ADDRESS OF WELL LOCATION A)

LOCATION OF PROPERTY Same

CONSTRUCTION DETAILS

CASING

Borehole Diameter 8 in.

1 Diameter 2" in. Length 31 ft. Wall Thickness Sch 40 in.

2 Diameter ____ in. Length ____ ft. Wall Thickness ____ in.

Type: 1/2 Steel 1/2 Galv. 1/2 (PVC) 1/2 Other

Joints: 1/2 (Threaded) 1/2 Welded 1/2 Solvent 1/2 Other

Liner: Length ____ Type ____ Wall Thickness ____ in.

SCREEN

Type (wire wrapped, louvered, etc.) Slotted Material PVC

Length 10 ft. Diameter 2" in.

Set between 31 ft. and 41 ft. Slot 0.010

GROUT

Material Bentonite Volume used 11 50 Lb bag

Method of installation HSA

Depth: placed from 31 ft. to 2

GRAVEL PACK (Filter Pack)

Material #5 Sand Volume used 8 50 Lb bag

Method of installation HSA

Depth: placed from 41 ft. to 31

Pitless Device ☐ Adapter ☐ Preassembled unit

Use of Well MW Manhole cover

☐ Rotary ☐ Cable ☐ Augered ☐ Driven ☐ Dug ☐ Other

Date of Completion 8-24-99

WELL LOG*

INDICATE DEPTH(S) AT WHICH WATER IS ENCOUNTERED.

Show color, texture, hardness, and formation: sandstone, shale, limestone, gravel, clay, sand, etc.	From	To
Sand + Gravel, Brown	0	41
MW-3		

WELL TEST

☐ Bailing ☐ Pumping* ☐ Other

Test rate N/A gpm Duration of test ____ hr

Drawdown ____

Measured from: ☐ top of casing ☐ ground level ☐ Other ____

Static Level (depth to water) ____ ft. Date: ____

Quality (clear, cloudy, taste, odor) ____

*(Attach a copy of the pumping test record, per section 1521.05, ORC)

PUMP

Type of pump N/A Capacity ____ gp

Pump set at ____

Pump installed by ____

SKETCH SHOWING WELL LOCATION

Show distances well lies from numbered state highways, street intersections, county roads, etc.

N

See Attachment

W E

S

*If additional space is needed to complete well log, use next consecutively numbered form.

I hereby certify the information given is accurate and correct to the best of my knowledge.

Drilling Firm MED Signed Jim Rush

Address 11405 Century Circle Date 8-24-99

City, State, Zip Cincinnati OH 45246 ODH Registration Number N/A

Completion of this form is required by section 1521.05, Ohio Revised Code - file within 30 days after completion of drilling

ORIGINAL COPY TO - ODNR, DIVISION OF WATER, 1939 FOUNTAIN SQ. DRIVE, COLS., OHIO 43224

Blue - Customer's copy, Pink - Driller's copy, Green - Local Health Dept. copy

TYPE OR USE PEN
SELF TRANSCRIBING
PRESS HARD

Ohio Department of Natural Resources, Division of Water
1939 Fountain Square Drive, Columbus, Ohio 43224 Phone (614) 265-6739

Permit Number N/A

COUNTY Montgomery TOWNSHIP 2 SECTION/LOT No. (CIRCLE ONE) 35

OWNER/BUILDER (CIRCLE ONE OR BOTH) Dayton Electroplating PROPERTY ADDRESS (ADDRESS OF WELL LOCATION A) 1030 Valley ST. Dayton

LOCATION OF PROPERTY East

CONSTRUCTION DETAILS

CASING
Borehole Diameter 8 in.
1 Diameter 2 in. Length 27 ft. Wall Thickness Sch. 40 in.
2 Diameter ____ in. Length ____ ft. Wall Thickness ____ in.
Type: 1/2 Steel 1/2 Galv. 1/2 PVC 1/2 Other
Joints: 1/2 Threaded 1/2 Welded 1/2 Solvent 1/2 Other
Liner: Length ____ Type ____ Wall Thickness ____ in.

SCREEN
Type (wire wrapped, louvered, etc.) Slotted Material PVC
Length 10 ft. Diameter 2" in.
Set between 27 ft. and 37 ft. Slot 0.010

GROUT
Material Bentonite Volume used 8 50lb bag
Method of installation HSA
Depth: placed from 26 ft. to 2

GRAVEL PACK (Filter Pack)
Material #5 Sand Volume used 8 50lb bag
Method of installation HSA
Depth: placed from 26 ft. to 37

Pitless Device ☐ Adapter ☐ Preassembled unit
Use of Well MW Manhole cover
☐ Rotary ☐ Cable ☐ Augered ☐ Driven ☐ Dug ☐ Other
Date of Completion 8-25-99

WELL LOG*

INDICATE DEPTH(S) AT WHICH WATER IS ENCOUNTERED.

Show color, texture, hardness, and formation: sandstone, shale, limestone, gravel, clay, sand, etc.	From	To
Sand & Gravel	0	37
MW-4		

WELL TEST

☐ Bailing ☐ Pumping* ☐ Other
Test rate N/A gpm Duration of test ____ hr
Drawdown ____
Measured from: ☐ top of casing ☐ ground level ☐ Other
Static Level (depth to water) ____ ft. Date: ____
Quality (clear, cloudy, taste, odor) ____

*(Attach a copy of the pumping test record, per section 1521.05, ORC)

PUMP

Type of pump N/A Capacity ____ gpm
Pump set at ____ ft
Pump installed by ____

SKETCH SHOWING WELL LOCATION

Show distances well lies from numbered state highways, street intersections, county roads, etc.

N

See Attachment

W E

S

*If additional space is needed to complete well log, use next consecutively numbered form

I hereby certify the information given is accurate and correct to the best of my knowledge.

Drilling Firm MED Signed ____

Address 11405 Century Circle Date 8-25-99

City, State, Zip Cincinnati, OH 45246 ODH Registration Number N/A

Completion of this form is required by section 1521.05, Ohio Revised Code - file within 30 days after completion of drilling.

ORIGINAL COPY TO - ODNR, DIVISION OF WATER, 1939 FOUNTAIN SQ. DRIVE, COLS., OHIO 43224

TYPE OR USE PEN
SELF TRANSCRIBING
PRESS HARD

Ohio Department of Natural Resources, Division of Water
1939 Fountain Square Drive, Columbus, Ohio 43224 Phone (614) 265-6739

Permit Number N/A

COUNTY Montgomery TOWNSHIP 2 SECTION/LOT No. (CIRCLE ONE) 35

OWNER/BUILDER (CIRCLE ONE OR BOTH) Dayton Electroplating PROPERTY ADDRESS (ADDRESS OF WELL LOCATION A) 1030 Valley St Dayton OH

LOCATION OF PROPERTY Same

CONSTRUCTION DETAILS

CASING
Borehole Diameter 8" in.
1 Diameter 2" in. Length 26 ft. Wall Thickness Sch 40 in.
2 Diameter ____ in. Length ____ ft. Wall Thickness ____ in.
Type: 1 Steel 1 Galv. 1 (2) PVC 1 2 Other
Joints: 1 (2) Threaded 1 2 Welded 1 2 Solvent 1 2 Other
Liner: Length ____ Type ____ Wall Thickness ____ in.

SCREEN
Type (wire wrapped, louvered, etc.) Slotted Material PVC
Length 10 ft. Diameter 2" in.
Set between 31 ft. and 41 ft. Slot 0.010

GROUT
Material Bentonite Volume used 10-50 Lb bag
Method of installation HSA
Depth: placed from 2 ft. to 30 ft.

GRAVEL PACK (Filter Pack)
Material #5 Sand Volume used 6-50 Lb bag
Method of installation HSA
Depth: placed from 41 ft. to 30 ft.

Pitless Device ☐ Adapter ☐ Preassembled unit
Use of Well MW Manhole cover
☐ Rotary ☐ Cable ☑ Augered ☐ Driven ☐ Dug ☐ Other
Date of Completion 8-25-99

WELL LOG*

INDICATE DEPTH(S) AT WHICH WATER IS ENCOUNTERED.

Show color, texture, hardness, and formation: sandstone, shale, limestone, gravel, clay, sand, etc.	From	To
Sand & Gravel, Brown	[redacted]	
MW-5	0	41

WELL TEST

☐ Bailing ☐ Pumping* ☐ Other
Test rate N/A gpm Duration of test ____ hrs
Drawdown ____ ft
Measured from: ☐ top of casing ☐ ground level ☐ Other
Static Level (depth to water) ____ ft. Date: ____
Quality (clear, cloudy, taste, odor) ____

*(Attach a copy of the pumping test record, per section 1521.05, ORC)

PUMP

Type of pump N/A Capacity ____ gpm
Pump set at ____ ft
Pump installed by ____

SKETCH SHOWING WELL LOCATION

Show distances well lies from numbered state highways, street intersections, county roads, etc.

N

See Attachment

W E

S

*If additional space is needed to complete well log, use next consecutively numbered form.

I hereby certify the information given is accurate and correct to the best of my knowledge.

Drilling Firm MED Signed [signature]

Address 11405 Century Circle Date 8-25-99

City, State, Zip Cincinnati OH 45246 ODH Registration Number N/A

Completion of this form is required by section 1521.05, Ohio Revised Code - file within 30 days after completion of drilling.

ORIGINAL COPY TO - ODNR, DIVISION OF WATER, 1939 FOUNTAIN SQ. DRIVE, COLS., OHIO 43224

Blue - Customer's copy, Pink - Driller's copy, Green - Local Health Dept. copy

TYPE OR USE PEN
SELF TRANSCRIBING
PRESS HARD

Ohio Department of Natural Resources, Division of Water
1939 Fountain Square Drive, Columbus, Ohio 43224 Phone (614) 265-6739

Permit Number N/A

COUNTY Montgomery TOWNSHIP 2 SECTION (CIRCLE ONE) LOT No. 35

OWNER/BUILDER (CIRCLE ONE OR BOTH) Dayton Electroplate PROPERTY ADDRESS 1030 Valley St Dayton, OH (ADDRESS OF WELL LOCATION A)

LOCATION OF PROPERTY Same

CONSTRUCTION DETAILS

CASING Borehole Diameter 8 in.

1 Diameter 2 in. Length 32 ft. Wall Thickness Sch 40 in.

2 Diameter ____ in. Length ____ ft. Wall Thickness ____ in.

Type: 1 2 Steel 1 2 Galv. 1 (2) PVC 1 2 Other ____

Joints: 1 (2) Threaded 1 2 Welded 1 2 Solvent 1 2 Other ____

Liner: Length ____ Type ____ Wall Thickness Sch 40 in.

SCREEN

Type (wire wrapped, louvered, etc.) Slotted Material PVC

Length 10 ft. Diameter 2 in.

Set between 32 ft. and 42 ft. Slot 0.010

GROUT

Material Bentonite Volume used 9-50lb bags

Method of installation HSA

Depth: placed from 30 ft. to 2 ft.

GRAVEL PACK (Filter Pack)

Material #5 Sand Volume used 7 50 lb bag

Method of installation HSA

Depth: placed from 30 ft. to 42 ft.

Pitless Device ☐ Adapter ☐ Preassembled unit

Use of Well MW Manhole Covers

☐ Rotary ☐ Cable ☒ Augered ☐ Driven ☐ Dug ☐ Other ____

Date of Completion 8-26-99

WELL LOG*

INDICATE DEPTH(S) AT WHICH WATER IS ENCOUNTERED.

Show color, texture, hardness, and formation: sandstone, shale, limestone, gravel, clay, sand, etc.	From	To
Sand & Gravel, Brown	0	42
MW #6		

WELL TEST

☐ Bailing ☐ Pumping* ☐ Other ____

Test rate N/A gpm Duration of test ____ hrs

Drawdown ____ ft

Measured from: ☐ top of casing ☐ ground level ☐ Other ____

Static Level (depth to water) ____ ft. Date: ____

Quality (clear, cloudy, taste, odor) ____

*(Attach a copy of the pumping test record, per section 1521.05, ORC)

PUMP

Type of pump N/A Capacity ____ gpm

Pump set at ____ ft

Pump installed by ____

SKETCH SHOWING WELL LOCATION

Show distances well lies from numbered state highways, street intersections, county roads, etc.

N

See Attachment

W E

S

* If additional space is needed to complete well log, use next consecutively numbered form.

I hereby certify the information given is accurate and correct to the best of my knowledge.

Drilling Firm MED Signed Jim Rudell

Address 11405 Century Circle Date 8-26-99

City, State, Zip Cincinnati, OH 45246 ODH Registration Number N/A

Completion of this form is required by section 1521.05, Ohio Revised Code - file within 30 days after completion of drilling.

ATTACHMENT B

Well Development Logs

PSARA TECHNOLOGIES, INC.

Well Development Log

Project No. 60008.11
Well No. MW-1

General Information

Client: **Ohio Environmental Protection Agency**	Well No.: **MW-1**
Site Location: **Dayton Electroplate, 1030 Valley St.**	Date Developed: **8/27/99** Time: **1037** to **1047**
PSARA Technician(s): **Tim O'Dowd**	Weather: **70's Overcast**

Well Volume Calculations

Measuring Point: [X] Top of Casing [ ] Other:	Measurement Instr.: [ ] Tape [ ] Electronic [X] O/W Probe
Depth to Water (ft): D1 = **29.66**	Height of Water Column (ft): H = (D2 - D1) = **7.43**
Depth to Well Bottom (ft): D2 = **37.09**	Volume of Water in Well (gal): V = (H x F) = **1.21**
Product Present: [ ] Yes [X] No	Depth to Product (ft): **NA** Product Thickness (in): **NA**

2" well: F = 0.163 4" well: F = 0.651

Well Development Data

Well Volume	pH	Conductivity (µmho)	Temperature (°C)	Appearance / Odor
First Bailer	**6.87**	**1,130**	**20.5**	**Very turbid light brown, no odor**
Volume No. 1	**6.79**	**877**	**18.3**	**Very turbid light brown, no odor**
Volume No. 2	**6.74**	**1,090**	**16.8**	**Turbid light brown, no odor**
Volume No. 3	**6.71**	**1,090**	**16.7**	**Turbid light brown, no odor**
Volume No. 4	**6.67**	**990**	**17.1**	**Slightly turbid light brown, no odor**
Volume No. 5	**6.69**	**996**	**17.0**	**Slightly turbid light brown, no odor**
Total Volume Purged (gal): **8.0**			Well Purged Dry: [ ] Yes [X] No	

Notes

well could not be surged, slightly bent, drill rods would not fit.

Ent'd by: TPO
Ck'd by:
Date: 4-23-99

FORM NO. 003.0

PSARA TECHNOLOGIES, INC.	**Well Development Log**	Project No. 60008.11 Well No. MW-2

General Information

Client: **Ohio Environmental Protection Agency**	Well No.: **MW-2**
Site Location: **Dayton Electroplate, 1030 Valley St.**	Date Developed: **8/27/99** Time: **1000** to **1017**
PSARA Technician(s): **Tim O'Dowd**	Weather: **70's Sunny**

Well Volume Calculations

Measuring Point: ☒ Top of Casing ☐ Other:	Measurement Instr.: ☐ Tape ☐ Electronic ☒ O/W Probe
Depth to Water (ft): D1 = **30.69**	Height of Water Column (ft): H = (D2 - D1) = **8.44**
Depth to Well Bottom (ft): D2 = **39.13**	Volume of Water in Well (gal): V = (H x F) = **1.38**
Product Present: ☐ Yes ☒ No	Depth to Product (ft): **NA** Product Thickness (in): **NA**

2" well: F = 0.163 4" well: F = 0.651

Well Development Data

Well Volume	pH	Conductivity (µmho)	Temperature (°C)	Appearance / Odor
First Bailer	**6.88**	**1,040**	**20.1**	**Turbid light brown, no odor**
Volume No. 1	**6.95**	**968**	**17.2**	**Turbid light brown, no odor**
Volume No. 2	**6.94**	**936**	**17.3**	**Turbid light brown, no odor**
Volume No. 3	**6.91**	**1,050**	**16.7**	**Slightly turbid light brown, no odor**
Volume No. 4	**6.93**	**1,050**	**16.5**	**Slightly turbid light brown, no odor**
Volume No. 5	**6.94**	**1,060**	**16.5**	**Mostly clear, no odor**
Total Volume Purged (gal): **8.0**			Well Purged Dry: ☐ Yes ☒ No	

Notes

Ent'd by: TPO

Ck'd by:

Date: 4-23-99

PSARA TECHNOLOGIES, INC.	**Well Development Log**	Project No. 60008.11 Well No. MW-3

General Information

Client: **Ohio Environmental Protection Agency**	Well No.: **MW-3**
Site Location: **Dayton Electroplate. 1030 Valley St.**	Date Developed: **8/27/99** Time: **0755** to **0822**
PSARA Technician(s): **Tim O'Dowd**	Weather: **70's Overcast**

Well Volume Calculations

Measuring Point: ☒ Top of Casing ☐ Other:	Measurement Instr.: ☐ Tape ☐ Electronic ☒ O/W Probe
Depth to Water (ft): D1 = **35.19**	Height of Water Column (ft): H = (D2 - D1) = **9.88**
Depth to Well Bottom (ft): D2 = **45.07**	Volume of Water in Well (gal): V = (H x F) = **1.61**
Product Present: ☐ Yes ☒ No	Depth to Product (ft): **NA** Product Thickness (in): **NA**

2" well: F = 0.163 4" well: F = 0.651

Well Development Data

Well Volume	pH	Conductivity (µmho)	Temperature (°C)	Appearance / Odor
First Bailer	**6.71**	**1,280**	**17.4**	**Very Turbid light brown, no odor**
Volume No. 1	**6.67**	**1,060**	**16.7**	**Very Turbid light brown, no odor**
Volume No. 2	**6.59**	**1,250**	**16.5**	**Very Turbid light brown, no odor**
Volume No. 3	**6.52**	**1,120**	**16.1**	**Very Turbid light brown, no odor**
Volume No. 4	**6.50**	**1,230**	**15.8**	**Very Turbid light brown, no odor**
Volume No. 5	**6.49**	**1,210**	**15.9**	**Very Turbid light brown, no odor**
Total Volume Purged (gal): **9.0**			Well Purged Dry: ☐ Yes ☒ No	

Notes

Ent'd by: TPO

Ck'd by:

Date: 4-23-99

FORM NO. 003.0

PSARA TECHNOLOGIES, INC.	**Well Development Log**	Project No. 60008.11 Well No. MW-4

General Information

Client: **Ohio Environmental Protection Agency**	Well No.: **MW-4**
Site Location: **Dayton Electroplate, 1030 Valley St.**	Date Developed: **8/27/99** Time: **0835** to **0906**
PSARA Technician(s): **Tim O'Dowd**	Weather: **70's Overcast**

Well Volume Calculations

Measuring Point: ☒ Top of Casing ☐ Other:	Measurement Instr.: ☐ Tape ☐ Electronic ☒ O/W Probe
Depth to Water (ft): D1 = **27.77**	*Height of Water Column* (ft): H = (D2 - D1) = **9.86**
Depth to Well Bottom (ft): D2 = **37.63**	Volume of Water in Well (gal): V = (H x F) = **1.61**
Product Present: ☐ Yes ☒ No	Depth to Product (ft): **NA** Product Thickness (in): **NA**

2" well: F = 0.163 4" well: F = 0.651

Well Development Data

Well Volume	pH	Conductivity (µmho)	Temperature (°C)	Appearance / Odor
First Bailer	**6.79**	**1,030**	**17.4**	**Turbid light brown, no odor**
Volume No. 1	**6.94**	**826**	**16.7**	**Slightly Turbid light brown, no odor**
Volume No. 2	**6.85**	**865**	**16.5**	**Slightly Turbid light brown, no odor**
Volume No. 3	**6.80**	**871**	**16.1**	**Clear, no odor**
Volume No. 4	**6.84**	**884**	**15.8**	**Clear, no odor**
Volume No. 5	**6.84**	**894**	**15.9**	**Clear, no odor**
Total Volume Purged (gal): **9.0**			Well Purged Dry: ☐ Yes ☒ No	

Notes

Ent'd by: TPO

Ck'd by:

Date: 4-23-99

FORM NO. 003.0

PSARA TECHNOLOGIES, INC.

Well Development Log

Project No. 60008.11
Well No. MW-5

General Information

Client: **Ohio Environmental Protection Agency**	Well No.: **MW-5**
Site Location: **Dayton Electroplate, 1030 Valley St.**	Date Developed: **8/27/99** Time: **0926** to **0941**
PSARA Technician(s): **Tim O'Dowd**	Weather: **70's Overcast**

Well Volume Calculations

Measuring Point: ☒ Top of Casing ☐ Other:	Measurement Instr.: ☐ Tape ☐ Electronic ☒ O/W Probe
Depth to Water (ft): D1 = **30.84**	Height of Water Column (ft): H = (D2 - D1) = **10.89**
Depth to Well Bottom (ft): D2 = **41.73**	Volume of Water in Well (gal): V = (H x F) = **1.76**
Product Present: ☐ Yes ☒ No	Depth to Product (ft): **NA** Product Thickness (in): **NA**

2" well: F = 0.163 4" well: F = 0.651

Well Development Data

Well Volume	pH	Conductivity (µmho)	Temperature (°C)	Appearance / Odor
First Bailer	**6.82**	**980**	**18.4**	**Very turbid light brown, no odor**
Volume No. 1	**6.76**	**897**	**16.3**	**Very turbid light brown, no odor**
Volume No. 2	**6.77**	**914**	**15.9**	**Very turbid light brown, no odor**
Volume No. 3	**6.74**	**886**	**15.8**	**Slightly Turbid light brown, no odor**
Volume No. 4	**6.71**	**885**	**16.0**	**Slightly Turbid light brown, no odor**
Volume No. 5	**6.69**	**866**	**15.9**	**Clear, no odor**

Total Volume Purged (gal): **10.0** Well Purged Dry: ☐ Yes ☒ No

Notes

Ent'd by: TPO
Ck'd by:
Date: 4-23-99

FORM NO. 003.0

PSARA TECHNOLOGIES, INC.

Well Development Log

Project No. 60008.11
Well No. MW-6

General Information

Client: **Ohio Environmental Protection Agency**	Well No.: **MW-6**
Site Location: **Dayton Electroplate, 1030 Valley St.**	Date Developed: **8/26/99** Time: **1700** to **1720**
PSARA Technician(s): **Tim O'Dowd**	Weather: **80's Sunny**

Well Volume Calculations

Measuring Point: ☒ Top of Casing ☐ Other:	Measurement Instr.: ☐ Tape ☐ Electronic ☒ O/W Probe
Depth to Water (ft): D1 = **33.31**	Height of Water Column (ft): H = (D2 - D1) = **11.77**
Depth to Well Bottom (ft): D2 = **45.08**	Volume of Water in Well (gal): V = (H x F) = **1.92**
Product Present: ☐ Yes ☒ No	Depth to Product (ft): **NA** Product Thickness (in): **NA**

2" well: F = 0.163 4" well: F = 0.651

Well Development Data

Well Volume	pH	Conductivity (µmho)	Temperature (°C)	Appearance / Odor
First Bailer	**6.94**	**1,610**	**21.3**	**Very turbid light brown, no odor**
Volume No. 1	**6.88**	**1,670**	**17.3**	**Very turbid light brown, no odor**
Volume No. 2	**6.83**	**1,670**	**17.7**	**Very turbid light brown, no odor**
Volume No. 3	**6.81**	**1,730**	**16.7**	**Very turbid light brown, no odor**
Volume No. 4	**6.76**	**1,600**	**16.8**	**Very turbid light brown, no odor**
Volume No. 5	**6.72**	**1,740**	**16.8**	**Very turbid light brown, no odor**
Total Volume Purged (gal): **10.0**			Well Purged Dry: ☐ Yes ☒ No	

Notes

Ent'd by: TPO
Ck'd by:
Date: 4-23-99

FORM NO. 003.0

ATTACHMENT C

Survey Results

MONITORING WELL LOCATIONS

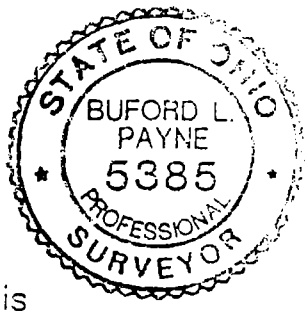
WELL #	NORTHING	EASTING	ELEV'N
MW1	652420.95	1501037.36	656.46
MW2	652236.04	1501068.68	657.38
MW3	651968.07	1501010.69	658.48
MW4	652084.53	1501062.56	654.44
MW5	652174.96	1501142.64	657.50
MW6	652143.69	1500937.27	660.21

The horizontal coordinates were established by GPS observations and are referenced to NAD 83.

The elevations given are the orthometric height as determined by GPS observations and are referenced to NAVD 88.

NGS Monuments used in this survey:
PID – AE3350
& PID – AH3427

The tie from NGS monument AE3350 to MW1 is N 58°27' 47" E 7982.28'



Note: This seal applies only to this document. I disclaim any responsibility for all other documents or instruments relating to or intended to be used for any part or parts of this project or any other project.

MONITORING WELLS

For PSARA Technologies, Inc.

Dayton Electroplating Site

Dayton, Montgomery County, Ohio

Drawn: GES
Checked: BLP
Date: 9/29/99
Scale: N/A
Job No.: 3031

B. L. Payne & Associates, Inc.
Civil Engineers & Surveyors
11479 Colerain Avenue
Cincinnati, Ohio 45252
Phone: (513) 385-5922 Fax: (513)385- 8103
blpayne@att.net

1
1

Rev. 12/8/99 – MW3 Elev.

//jobs/3000_/a3031.S70

ATTACHMENT D

IDW Analytical Results

Quanterra Incorporated
4101 Shuttel Drive, NW
North Canton, Ohio 44720

330 497-9396 Telephone
330 497-0772 Fax

ANALYTICAL REPORT

PROJECT NO. 60008.11

OEPA-SWDO MOB ORDER 557-09

Lot #: A9I020127

Rich Stuck

PSARA Technologies

QUANTERRA INCORPORATED

Jeffrey C. Smith
Project Manager

October 1, 1999

CASE NARRATIVE

The following report contains the analytical results for four solid samples submitted to Quanterra-North Canton by PSARA Technologies from the OEPA-SWDO MOB Order 557-09 Site, project number 60008.11. The samples were received September 2, 1999, according to documented sample acceptance procedures.

Samples submitted for reactive cyanide and reactive sulfide analysis were received after the recommended holding times had been exceeded.

Quanterra-North Canton utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameters listed on the method reference page in accordance with the methods indicated.

The results included in this report have been reviewed for compliance with the laboratory QA/QC plan. All data have been found to be compliant with laboratory protocol.

SUPPLEMENTAL QC INFORMATION

SAMPLE RECEIVING

The coolers were received at the laboratory at a temperature of 0.2° C.

GC/MS SEMIVOLATILES

The MS/MSDs performed on samples 8.11-001 MW-2 and 8.11-004 MW-6 had RPDs and/or recoveries outside acceptance limits. However, since the associated method blank and check were in control, no corrective action was necessary.

The MS/MSD performed on sample 8.11-003 MW-4&MW-5 had recoveries outside acceptance limits. Since the RPDs were in control, no corrective action was necessary.

Sample 8.11-003 MW-4&MW-5 had surrogate recoveries outside acceptance limits. Upon reextraction and reanalysis, the surrogates were again outside acceptance limits demonstrating a matrix effect.

ANALYTICAL METHODS SUMMARY

A9I020127

PARAMETER	ANALYTICAL METHOD
Chlorinated Herbicides by GC	SW846 8151A
Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Mercury in Liquid Waste (Manual Cold-Vapor)	SW846 7470A
Organochlorine Pesticides	SW846 8081A
Pensky-Martens Method for Determining Ignitability	SW846 1010
Reactive Cyanide	SW846 7.3.3
Reactive Sulfide	SW846 7.3.4
Semivolatile Organic Compounds by GC/MS	SW846 8270C
Soil and Waste pH	SW846 9045C
Volatile Organics by GC/MS	SW846 8260B

References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

A9I020127

WO #	SAMPLE#	CLIENT SAMPLE ID	DATE	TIME
D2252	001	8.11-001 MW-2	08/23/99	14:00
D2256	002	8.11-002 MW-3	08/24/99	11:00
D2257	003	8.11-003 MW-4&MW-5	08/25/99	17:00
D225A	004	8.11-004 MW-6	08/26/99	16:00

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

PSARA TECHNOLOGIES

Client Sample ID: 8.11-001 MW-2

TCLP GC/MS Volatiles

Lot-Sample #...:	A9I020127-001	Work Order #...:	D2252101	Matrix.....:	SOLID
Date Sampled...:	08/23/99 14:00	Date Received..:	09/02/99		
Leach Date.....:	09/03/99	Prep Date.....:	09/10/99	Analysis Date..:	09/10/99
Leach Batch #..:	P924508	Prep Batch #...:	9250138		
Dilution Factor:	1				
% Moisture.....:		Method.....:	SW846 8260B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	ND	0.025	mg/L
Carbon tetrachloride	ND	0.025	mg/L
Chlorobenzene	ND	0.025	mg/L
Chloroform	ND	0.025	mg/L
1,2-Dichloroethane	ND	0.025	mg/L
1,1-Dichloroethylene	ND	0.070	mg/L
Methyl ethyl ketone	ND	20	mg/L
Tetrachloroethylene	ND	0.070	mg/L
Trichloroethylene	ND	0.050	mg/L
Vinyl chloride	ND	0.050	mg/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	98	(75 - 117)
Toluene d8	94	(86 - 122)
Bromofluorobenzene	91	(60 - 137)
Dibromofluoromethane	96	(70 - 135)

NOTE(S):

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

PSARA TECHNOLOGIES

Client Sample ID: 8.11-001 MW-2

TCLP GC/MS Semivolatiles

Lot-Sample #...:	A9I020127-001	**Work Order #...:**	D2252102	**Matrix.....:**	SOLID
Date Sampled...:	08/23/99 14:00	**Date Received..:**	09/02/99		
Leach Date.....:	09/04/99	**Prep Date.....:**	09/08/99	**Analysis Date..:**	09/13/99
Leach Batch #..:	P924701	**Prep Batch #...:**	9250215		
Dilution Factor:	1				
% Moisture.....:		**Method.....:**	SW846 8270C		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
o-Cresol	ND	0.050	mg/L
m-Cresol & p-Cresol	ND	0.10	mg/L
1,4-Dichlorobenzene	ND	0.050	mg/L
2,4-Dinitrotoluene	ND	0.050	mg/L
Hexachlorobenzene	ND	0.050	mg/L
Hexachlorobutadiene	ND	0.050	mg/L
Hexachloroethane	ND	0.050	mg/L
Nitrobenzene	ND	0.050	mg/L
Pentachlorophenol	ND	0.10	mg/L
Pyridine	ND	0.10	mg/L
2,4,5-Trichlorophenol	ND	0.050	mg/L
2,4,6-Trichlorophenol	ND	0.050	mg/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	84	(44 - 110)
2-Fluorobiphenyl	84	(50 - 105)
Terphenyl-d14	124	(11 - 158)
Phenol-d5	51	(10 - 131)
2-Fluorophenol	30	(10 - 130)
2,4,6-Tribromophenol	84	(10 - 156)

NOTE(S):

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

PSARA TECHNOLOGIES

Client Sample ID: 8.11-001 MW-2

TCLP GC Semivolatiles

Lot-Sample #...:	A9I020127-001	**Work Order #...:**	D2252103	**Matrix.....:**	SOLID
Date Sampled...:	08/23/99 14:00	**Date Received..:**	09/02/99		
Leach Date.....:	09/04/99	**Prep Date.....:**	09/08/99	**Analysis Date..:**	09/11/99
Leach Batch #..:	P924701	**Prep Batch #...:**	9250211		
Dilution Factor:	1				
% Moisture.....:		**Method.....:**	SW846 8081A		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chlordane (technical)	ND	0.0050	mg/L
Endrin	ND	0.00050	mg/L
Heptachlor	ND	0.00050	mg/L
Heptachlor epoxide	ND	0.00050	mg/L
Lindane	ND	0.00050	mg/L
Methoxychlor	ND	0.0010	mg/L
Toxaphene	ND	0.020	mg/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Decachlorobiphenyl	85	(60 - 150)
Tetrachloro-m-xylene	82	(14 - 155)

NOTE(S):

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

PSARA TECHNOLOGIES

Client Sample ID: 8.11-001 MW-2

TCLP GC Semivolatiles

Lot-Sample #...:	A9I020127-001	**Work Order #...:**	D2252104	**Matrix.....:**	SOLID
Date Sampled...:	08/23/99 14:00	**Date Received..:**	09/02/99		
Leach Date.....:	09/04/99	**Prep Date.....:**	09/10/99	**Analysis Date..:**	09/17/99
Leach Batch #..:	P924701	**Prep Batch #...:**	9252314		
Dilution Factor:	1				
% Moisture.....:		**Method.....:**	SW846 8151A		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
2,4-D	ND	0.50	mg/L
2,4,5-TP (Silvex)	ND	0.10	mg/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2,4-Dichlorophenylacetic acid	73	(53 - 168)

NOTE(S):

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

PSARA TECHNOLOGIES

Client Sample ID: 8.11-001 MW-2

TCLP Metals

Lot-Sample #...: A9I020127-001 **Matrix.....:** SOLID
Date Sampled...: 08/23/99 14:00 **Date Received..:** 09/02/99
Leach Date.....: 09/04/99 **Leach Batch #..:** P924701

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 9251209						
Arsenic	ND	0.50	mg/L	SW846 6010B	09/09-09/15/99	D2252105
		Dilution Factor: 1				
Barium	ND	10.0	mg/L	SW846 6010B	09/09-09/15/99	D2252106
		Dilution Factor: 1				
Cadmium	ND	0.10	mg/L	SW846 6010B	09/09-09/15/99	D2252107
		Dilution Factor: 1				
Chromium	ND	0.50	mg/L	SW846 6010B	09/09-09/15/99	D2252108
		Dilution Factor: 1				
Lead	ND	0.50	mg/L	SW846 6010B	09/09-09/15/99	D2252109
		Dilution Factor: 1				
Selenium	ND	0.25	mg/L	SW846 6010B	09/09-09/15/99	D225210A
		Dilution Factor: 1				
Silver	ND	0.50	mg/L	SW846 6010B	09/09-09/15/99	D225210C
		Dilution Factor: 1				
Mercury	ND	0.0020	mg/L	SW846 7470A	09/09-09/10/99	D225210D
		Dilution Factor: 1				

NOTE(S):

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

PSARA TECHNOLOGIES

Client Sample ID: 8.11-001 MW-2

General Chemistry

Lot-Sample #...: A9I020127-001 **Work Order #...:** D2252 **Matrix.....:** SOLID
Date Sampled...: 08/23/99 14:00 **Date Received..:** 09/02/99
% Moisture.....:

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH (solid)	**8.6**		**No Units**	**SW846 9045C**	**09/02/99**	**9252464**
	Dilution Factor: 1					
Flashpoint	**>180**		**deg F**	**SW846 1010**	**09/22/99**	**9265406**
	Dilution Factor: 1					
Reactive Cyanide	ND	200	mg/kg	SW846 7.3.3	09/14-09/19/99	9262118
	Dilution Factor: 1					
Reactive Sulfide	ND	200	mg/kg	SW846 7.3.4	09/14-09/19/99	9262116
	Dilution Factor: 1					

PSARA TECHNOLOGIES

Client Sample ID: 8.11-002 MW-3

TCLP GC/MS Volatiles

Lot-Sample #...:	A9I020127-002	Work Order #...:	D2256101	Matrix.....:	SOLID
Date Sampled...:	08/24/99 11:00	Date Received..:	09/02/99		
Leach Date.....:	09/03/99	Prep Date.....:	09/10/99	Analysis Date..:	09/10/99
Leach Batch #..:	P924508	Prep Batch #...:	9250138		
Dilution Factor:	1				
% Moisture.....:		Method.....:	SW846 8260B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	ND	0.025	mg/L
Carbon tetrachloride	ND	0.025	mg/L
Chlorobenzene	ND	0.025	mg/L
Chloroform	ND	0.025	mg/L
1,2-Dichloroethane	ND	0.025	mg/L
1,1-Dichloroethylene	ND	0.070	mg/L
Methyl ethyl ketone	ND	20	mg/L
Tetrachloroethylene	ND	0.070	mg/L
Trichloroethylene	ND	0.050	mg/L
Vinyl chloride	ND	0.050	mg/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	94	(75 - 117)
Toluene-d8	96	(86 - 122)
Bromofluorobenzene	90	(60 - 137)
Dibromofluoromethane	96	(70 - 135)

NOTE(S):

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

PSARA TECHNOLOGIES

Client Sample ID: 8.11-002 MW-3

TCLP GC/MS Semivolatiles

Lot-Sample #...:	A9I020127-002	**Work Order #...:**	D2256102	**Matrix.....:**	SOLID
Date Sampled...:	08/24/99 11:00	**Date Received..:**	09/02/99		
Leach Date.....:	09/08/99	**Prep Date.....:**	09/09/99	**Analysis Date..:**	09/14/99
Leach Batch #..:	P925102	**Prep Batch #...:**	9251149		
Dilution Factor:	1				
% Moisture.....:		**Method.....:**	SW846 8270C		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
o-Cresol	ND	0.050	mg/L
m-Cresol & p-Cresol	ND	0.10	mg/L
1,4-Dichlorobenzene	ND	0.050	mg/L
2,4-Dinitrotoluene	ND	0.050	mg/L
Hexachlorobenzene	ND	0.050	mg/L
Hexachlorobutadiene	ND	0.050	mg/L
Hexachloroethane	ND	0.050	mg/L
Nitrobenzene	ND	0.050	mg/L
Pentachlorophenol	ND	0.10	mg/L
Pyridine	ND	0.10	mg/L
2,4,5-Trichlorophenol	ND	0.050	mg/L
2,4,6-Trichlorophenol	ND	0.050	mg/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	72	(44 - 110)
2-Fluorobiphenyl	71	(50 - 105)
Terphenyl-d14	120	(11 - 158)
Phenol-d5	32	(10 - 131)
2-Fluorophenol	12	(10 - 130)
2,4,6-Tribromophenol	65	(10 - 156)

NOTE(S):

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

PSARA TECHNOLOGIES

Client Sample ID: 8.11-002 MW-3

TCLP GC Semivolatiles

Lot-Sample #...:	A9I020127-002	**Work Order #...:**	D2256103	**Matrix.....:**	SOLID
Date Sampled...:	08/24/99 11:00	**Date Received..:**	09/02/99		
Leach Date.....:	09/08/99	**Prep Date.....:**	09/09/99	**Analysis Date..:**	09/14/99
Leach Batch #..:	P925102	**Prep Batch #...:**	9251148		
Dilution Factor:	1				
% Moisture.....:		**Method.....:**	SW846 8081A		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chlordane (technical)	ND	0.0050	mg/L
Endrin	ND	0.00050	mg/L
Heptachlor	ND	0.00050	mg/L
Heptachlor epoxide	ND	0.00050	mg/L
Lindane	ND	0.00050	mg/L
Methoxychlor	ND	0.0010	mg/L
Toxaphene	ND	0.020	mg/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Decachlorobiphenyl	59 *	(60 - 150)
Tetrachloro-m-xylene	77	(14 - 155)

NOTE(S):

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

* Surrogate recovery is outside stated control limits.

PSARA TECHNOLOGIES

Client Sample ID: 8.11-002 MW-3

TCLP GC Semivolatiles

Lot-Sample #...:	A9I020127-002	**Work Order #...:**	D2256104	**Matrix.....:**	SOLID
Date Sampled...:	08/24/99 11:00	**Date Received..:**	09/02/99		
Leach Date.....:	09/08/99	**Prep Date.....:**	09/10/99	**Analysis Date..:**	09/17/99
Leach Batch #..:	P925102	**Prep Batch #...:**	9252316		
Dilution Factor:	1				
% Moisture.....:		**Method.....:**	SW846 8151A		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
2,4-D	ND	0.50	mg/L
2,4,5-TP (Silvex)	ND	0.10	mg/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2,4-Dichlorophenylacetic acid	63	(53 - 168)

NOTE(S):

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

PSARA TECHNOLOGIES

Client Sample ID: 8.11-002 MW-3

TCLP Metals

Lot-Sample #...: A9I020127-002 **Matrix.....:** SOLID
Date Sampled...: 08/24/99 11:00 **Date Received..:** 09/02/99
Leach Date.....: 09/08/99 **Leach Batch #..:** P925102

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 9252299						
Arsenic	ND	0.50	mg/L	SW846 6010B	09/10-09/15/99	D2256105
		Dilution Factor: 1				
Barium	ND	10.0	mg/L	SW846 6010B	09/10-09/15/99	D2256106
		Dilution Factor: 1				
Cadmium	ND	0.10	mg/L	SW846 6010B	09/10-09/15/99	D2256107
		Dilution Factor: 1				
Chromium	ND	0.50	mg/L	SW846 6010B	09/10-09/15/99	D2256108
		Dilution Factor: 1				
Lead	ND	0.50	mg/L	SW846 6010B	09/10-09/15/99	D2256109
		Dilution Factor: 1				
Selenium	ND	0.25	mg/L	SW846 6010B	09/10-09/15/99	D225610A
		Dilution Factor: 1				
Silver	ND	0.50	mg/L	SW846 6010B	09/10-09/15/99	D225610C
		Dilution Factor: 1				
Mercury	ND	0.0020	mg/L	SW846 7470A	09/10-09/11/99	D225610D
		Dilution Factor: 1				

NOTE(S):

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

PSARA TECHNOLOGIES

Client Sample ID: 8.11-002 MW-3

General Chemistry

Lot-Sample #...: A9I020127-002 **Work Order #...:** D2256 **Matrix.....:** SOLID
Date Sampled...: 08/24/99 11:00 **Date Received..:** 09/02/99
% Moisture.....:

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH (solid)	**8.8**		**No Units**	**SW846 9045C**	**09/02/99**	**9252464**
	Dilution Factor: 1					
Flashpoint	**>180**		**deg F**	**SW846 1010**	**09/22/99**	**9265406**
	Dilution Factor: 1					
Reactive Cyanide	ND	200	mg/kg	SW846 7.3.3	09/14-09/19/99	9262118
	Dilution Factor: 1					
Reactive Sulfide	ND	200	mg/kg	SW846 7.3.4	09/14-09/19/99	9262116
	Dilution Factor: 1					

PSARA TECHNOLOGIES

Client Sample ID: 8.11-003 MW-4&MW-5

TCLP GC/MS Volatiles

Lot-Sample #...:	A9I020127-003	Work Order #...:	D2257101	Matrix.....:	SOLID
Date Sampled...:	08/25/99 17:00	Date Received..:	09/02/99		
Leach Date.....:	09/03/99	Prep Date.....:	09/10/99	Analysis Date..:	09/10/99
Leach Batch #..:	P924508	Prep Batch #...:	9250138		
Dilution Factor:	1				
% Moisture.....:		Method.....:	SW846 8260B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	ND	0.025	mg/L
Carbon tetrachloride	ND	0.025	mg/L
Chlorobenzene	ND	0.025	mg/L
Chloroform	ND	0.025	mg/L
1,2-Dichloroethane	ND	0.025	mg/L
1,1-Dichloroethylene	ND	0.070	mg/L
Methyl ethyl ketone	ND	20	mg/L
Tetrachloroethylene	ND	0.070	mg/L
Trichloroethylene	ND	0.050	mg/L
Vinyl chloride	ND	0.050	mg/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	98	(75 - 117)
Toluene-d8	94	(86 - 122)
Bromofluorobenzene	90	(60 - 137)
Dibromofluoromethane	97	(70 - 135)

NOTE(S):

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

PSARA TECHNOLOGIES

Client Sample ID: 8.11-003 MW-4&MW-5

TCLP GC/MS Semivolatiles

Lot-Sample #...:	A9I020127-003	**Work Order #...:**	D2257102	**Matrix.....:**	SOLID
Date Sampled...:	08/25/99 17:00	**Date Received..:**	09/02/99		
Leach Date.....:	09/08/99	**Prep Date.....:**	09/09/99	**Analysis Date..:**	09/14/99
Leach Batch #..:	P925102	**Prep Batch #...:**	9251149		
Dilution Factor:	1				
% Moisture.....:		**Method.....:**	SW846 8270C		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
o-Cresol	ND	0.050	mg/L
m-Cresol & p-Cresol	ND	0.10	mg/L
1,4-Dichlorobenzene	ND	0.050	mg/L
2,4-Dinitrotoluene	ND	0.050	mg/L
Hexachlorobenzene	ND	0.050	mg/L
Hexachlorobutadiene	ND	0.050	mg/L
Hexachloroethane	ND	0.050	mg/L
Nitrobenzene	ND	0.050	mg/L
Pentachlorophenol	ND	0.10	mg/L
Pyridine	ND	0.10	mg/L
2,4,5-Trichlorophenol	ND	0.050	mg/L
2,4,6-Trichlorophenol	ND	0.050	mg/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	72	(44 - 110)
2-Fluorobiphenyl	73	(50 - 105)
Terphenyl-d14	131	(11 - 158)
Phenol-d5	4.8 *	(10 - 131)
2-Fluorophenol	0.0 *	(10 - 130)
2,4,6-Tribromophenol	34	(10 - 156)

NOTE(S):

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

* Surrogate recovery is outside stated control limits.

PSARA TECHNOLOGIES

Client Sample ID: 8.11-003 MW-4&MW-5

TCLP GC/MS Semivolatiles

Lot-Sample #...:	A9I020127-003	**Work Order #...:**	D2257202	**Matrix.....:**	SOLID
Date Sampled...:	08/25/99 17:00	**Date Received..:**	09/02/99		
Leach Date.....:	09/08/99	**Prep Date.....:**	09/18/99	**Analysis Date..:**	09/22/99
Leach Batch #..:	P925102	**Prep Batch #...:**	9261107		
Dilution Factor:	1				
% Moisture.....:		**Method.....:**	SW846 8270C		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
o-Cresol	ND	0.050	mg/L
m-Cresol & p-Cresol	ND	0.10	mg/L
1,4-Dichlorobenzene	ND	0.050	mg/L
2,4-Dinitrotoluene	ND	0.050	mg/L
Hexachlorobenzene	ND	0.050	mg/L
Hexachlorobutadiene	ND	0.050	mg/L
Hexachloroethane	ND	0.050	mg/L
Nitrobenzene	ND	0.050	mg/L
Pentachlorophenol	ND	0.10	mg/L
Pyridine	ND	0.10	mg/L
2,4,5-Trichlorophenol	ND	0.050	mg/L
2,4,6-Trichlorophenol	ND	0.050	mg/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	64	(44 - 110)
2-Fluorobiphenyl	55	(50 - 105)
Terphenyl-d14	68	(11 - 158)
Phenol-d5	0.0 *	(10 - 131)
2-Fluorophenol	0.0 *	(10 - 130)
2,4,6-Tribromophenol	26	(10 - 156)

NOTE(S):

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

* Surrogate recovery is outside stated control limits.

PSARA TECHNOLOGIES

Client Sample ID: 8.11-003 MW-4&MW-5

TCLP GC Semivolatiles

Lot-Sample #...:	A9I020127-003	**Work Order #...:**	D2257103	**Matrix.....:**	SOLID
Date Sampled...:	08/25/99 17:00	**Date Received..:**	09/02/99		
Leach Date.....:	09/08/99	**Prep Date.....:**	09/09/99	**Analysis Date..:**	09/14/99
Leach Batch #..:	P925102	**Prep Batch #...:**	9251148		
Dilution Factor:	1				
% Moisture.....:		**Method.....:**	SW846 8081A		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chlordane (technical)	ND	0.0050	mg/L
Endrin	ND	0.00050	mg/L
Heptachlor	ND	0.00050	mg/L
Heptachlor epoxide	ND	0.00050	mg/L
Lindane	ND	0.00050	mg/L
Methoxychlor	ND	0.0010	mg/L
Toxaphene	ND	0.020	mg/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Decachlorobiphenyl	81	(60 - 150)
Tetrachloro-m-xylene	84	(14 - 155)

NOTE(S):

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

PSARA TECHNOLOGIES

Client Sample ID: 8.11-003 MW-4&MW-5

TCLP GC Semivolatiles

Lot-Sample #...:	A9I020127-003	**Work Order #...:**	D2257104	**Matrix.....:**	SOLID
Date Sampled...:	08/25/99 17:00	**Date Received..:**	09/02/99		
Leach Date.....:	09/08/99	**Prep Date.....:**	09/10/99	**Analysis Date..:**	09/17/99
Leach Batch #..:	P925102	**Prep Batch #...:**	9252316		
Dilution Factor:	1				
% Moisture.....:		**Method.....:**	SW846 8151A		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
2,4-D	ND	0.50	mg/L
2,4,5-TP (Silvex)	ND	0.10	mg/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2,4-Dichlorophenylacetic acid	70	(53 - 168)

NOTE(S):

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

PSARA TECHNOLOGIES

Client Sample ID: 8.11-003 MW-4&MW-5

TCLP Metals

Lot-Sample #...: A9I020127-003 **Matrix.....:** SOLID
Date Sampled...: 08/25/99 17:00 **Date Received..:** 09/02/99
Leach Date.....: 09/08/99 **Leach Batch #..:** P925102

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 9252299						
Arsenic	ND	0.50	mg/L	SW846 6010B	09/10-09/15/99	D2257105
		Dilution Factor: 1				
Barium	ND	10.0	mg/L	SW846 6010B	09/10-09/15/99	D2257106
		Dilution Factor: 1				
Cadmium	ND	0.10	mg/L	SW846 6010B	09/10-09/15/99	D2257107
		Dilution Factor: 1				
Chromium	ND	0.50	mg/L	SW846 6010B	09/10-09/15/99	D2257108
		Dilution Factor: 1				
Lead	ND	0.50	mg/L	SW846 6010B	09/10-09/15/99	D2257109
		Dilution Factor: 1				
Selenium	ND	0.25	mg/L	SW846 6010B	09/10-09/15/99	D225710A
		Dilution Factor: 1				
Silver	ND	0.50	mg/L	SW846 6010B	09/10-09/15/99	D225710C
		Dilution Factor: 1				
Mercury	ND	0.0020	mg/L	SW846 7470A	09/10-09/11/99	D225710D
		Dilution Factor: 1				

NOTE(S):

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

PSARA TECHNOLOGIES

Client Sample ID: 8.11-003 MW-4&MW-5

General Chemistry

Lot-Sample #...: A9I020127-003 **Work Order #...:** D2257 **Matrix.....:** SOLID
Date Sampled...: 08/25/99 17:00 **Date Received..:** 09/02/99
% Moisture.....:

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH (solid)	**8.9**		**No Units**	**SW846 9045C**	**09/02/99**	**9252464**
	Dilution Factor: 1					
Flashpoint	**>180**		**deg F**	**SW846 1010**	**09/22/99**	**9265406**
	Dilution Factor: 1					
Reactive Cyanide	ND	200	mg/kg	SW846 7.3.3	09/14-09/19/99	9262118
	Dilution Factor: 1					
Reactive Sulfide	ND	200	mg/kg	SW846 7.3.4	09/14-09/19/99	9262116
	Dilution Factor: 1					

PSARA TECHNOLOGIES

Client Sample ID: 8.11-004 MW-6

TCLP GC/MS Volatiles

Lot Sample #...:	A9I020127-004	**Work Order #...:**	D225A101	**Matrix.....:**	SOLID
Date Sampled...:	08/26/99 16:00	**Date Received..:**	09/02/99		
Leach Date.....:	09/03/99	**Prep Date.....:**	09/10/99	**Analysis Date..:**	09/10/99
Leach Batch #..:	P924508	**Prep Batch #...:**	9250138		
Dilution Factor:	1				
% Moisture.....:		**Method.....:**	SW846 8260B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	ND	0.025	mg/L
Carbon tetrachloride	ND	0.025	mg/L
Chlorobenzene	ND	0.025	mg/L
Chloroform	ND	0.025	mg/L
1,2-Dichloroethane	ND	0.025	mg/L
1,1-Dichloroethylene	ND	0.070	mg/L
Methyl ethyl ketone	ND	20	mg/L
Tetrachloroethylene	ND	0.070	mg/L
Trichloroethylene	ND	0.050	mg/L
Vinyl chloride	ND	0.050	mg/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	97	(75 - 117)
Toluene-d8	95	(86 - 122)
Bromofluorobenzene	91	(60 - 137)
Dibromofluoromethane	96	(70 - 135)

NOTE(S):

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

PSARA TECHNOLOGIES

Client Sample ID: 8.11-004 MW-6

TCLP GC/MS Semivolatiles

Lot-Sample #...:	A9I020127-004	**Work Order #...:**	D225A102	**Matrix.....:**	SOLID
Date Sampled...:	08/26/99 16:00	**Date Received..:**	09/02/99		
Leach Date.....:	09/08/99	**Prep Date.....:**	09/09/99	**Analysis Date..:**	09/14/99
Leach Batch #..:	P925102	**Prep Batch #...:**	9251149		
Dilution Factor:	1				
% Moisture.....:		**Method.....:**	SW846 8270C		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
o-Cresol	ND	0.050	mg/L
m-Cresol & p-Cresol	ND	0.10	mg/L
1,4-Dichlorobenzene	ND	0.050	mg/L
2,4-Dinitrotoluene	ND	0.050	mg/L
Hexachlorobenzene	ND	0.050	mg/L
Hexachlorobutadiene	ND	0.050	mg/L
Hexachloroethane	ND	0.050	mg/L
Nitrobenzene	ND	0.050	mg/L
Pentachlorophenol	ND	0.10	mg/L
Pyridine	ND	0.10	mg/L
2,4,5-Trichlorophenol	ND	0.050	mg/L
2,4,6-Trichlorophenol	ND	0.050	mg/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	68	(44 - 110)
2-Fluorobiphenyl	66	(50 - 105)
Terphenyl-d14	127	(11 - 158)
Phenol-d5	34	(10 - 131)
2-Fluorophenol	13	(10 - 130)
2,4,6-Tribromophenol	62	(10 - 156)

NOTE(S):

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

PSARA TECHNOLOGIES

Client Sample ID: 8.11-004 MW-6

TCLP GC Semivolatiles

Lot-Sample #...:	A9I020127-004	**Work Order #...:**	D225A103	**Matrix.....:**	SOLID
Date Sampled...:	08/26/99 16:00	**Date Received..:**	09/02/99		
Leach Date.....:	09/08/99	**Prep Date.....:**	09/09/99	**Analysis Date..:**	09/14/99
Leach Batch #..:	P925102	**Prep Batch #...:**	9251148		
Dilution Factor:	1				
% Moisture.....:		**Method.....:**	SW846 8081A		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chlordane (technical)	ND	0.0050	mg/L
Endrin	ND	0.00050	mg/L
Heptachlor	ND	0.00050	mg/L
Heptachlor epoxide	ND	0.00050	mg/L
Lindane	ND	0.00050	mg/L
Methoxychlor	ND	0.0010	mg/L
Toxaphene	ND	0.020	mg/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Decachlorobiphenyl	81	(60 - 150)
Tetrachloro-m-xylene	74	(14 - 155)

NOTE(S):

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

PSARA TECHNOLOGIES

Client Sample ID: 8.11-004 MW-6

TCLP GC Semivolatiles

Lot-Sample #...:	A9I020127-004	**Work Order #...:**	D225A104	**Matrix.....:**	SOLID
Date Sampled...:	08/26/99 16:00	**Date Received..:**	09/02/99		
Leach Date.....:	09/08/99	**Prep Date.....:**	09/10/99	**Analysis Date..:**	09/17/99
Leach Batch #..:	P925102	**Prep Batch #...:**	9252316		
Dilution Factor:	1				
% Moisture.....:		**Method.....:**	SW846 8151A		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
2,4-D	ND	0.50	mg/L
2,4,5-TP (Silvex)	ND	0.10	mg/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2,4-Dichlorophenylacetic acid	79	(53 - 168)

NOTE(S):

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

PSARA TECHNOLOGIES

Client Sample ID: 8.11-004 MW-6

TCLP Metals

Lot-Sample #...: A9I020127-004 **Matrix.....:** SOLID
Date Sampled...: 08/26/99 16:00 **Date Received..:** 09/02/99
Leach Date.....: 09/08/99 **Leach Batch #..:** P925102

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 9252299						
Arsenic	ND	0.50 Dilution Factor: 1	mg/L	SW846 6010B	09/10-09/15/99	D225A105
Barium	ND	10.0 Dilution Factor: 1	mg/L	SW846 6010B	09/10-09/15/99	D225A106
Cadmium	ND	0.10 Dilution Factor: 1	mg/L	SW846 6010B	09/10-09/15/99	D225A107
Chromium	ND	0.50 Dilution Factor: 1	mg/L	SW846 6010B	09/10-09/15/99	D225A108
Lead	ND	0.50 Dilution Factor: 1	mg/L	SW846 6010B	09/10-09/15/99	D225A109
Selenium	ND	0.25 Dilution Factor: 1	mg/L	SW846 6010B	09/10-09/15/99	D225A10A
Silver	ND	0.50 Dilution Factor: 1	mg/L	SW846 6010B	09/10-09/15/99	D225A10C
Mercury	ND	0.0020 Dilution Factor: 1	mg/L	SW846 7470A	09/10-09/11/99	D225A10D

NOTE(S):

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

PSARA TECHNOLOGIES

Client Sample ID: 8.11-004 MW-6

General Chemistry

Lot-Sample #...: A9I020127-004 **Work Order #...:** D225A **Matrix.....:** SOLID
Date Sampled...: 08/26/99 16:00 **Date Received..:** 09/02/99
% Moisture.....:

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH (solid)	**9.0**		**No Units**	**SW846 9045C**	**09/02/99**	**9252464**
	Dilution Factor: 1					
Flashpoint	**>180**		**deg F**	**SW846 1010**	**09/22/99**	**9265406**
	Dilution Factor: 1					
Reactive Cyanide	ND	200	mg/kg	SW846 7.3.3	09/14-09/19/99	9262118
	Dilution Factor: 1					
Reactive Sulfide	ND	200	mg/kg	SW846 7.3.4	09/14-09/19/99	9262116
	Dilution Factor: 1					

QUALITY CONTROL SECTION

QUALITY CONTROL ELEMENTS OF SW-846 METHODS

Quanterra® Incorporated conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

QC BATCH

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. Quanterra requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

LABORATORY CONTROL SAMPLE

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. Failure to meet the established recovery guidelines requires the reprepparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). Failure of the RPDs to fall within the laboratory-generated acceptance windows requires the reprepparation and reanalysis of all samples in the QC batch. The only exception is that if the MS/MSD RPDs are within acceptance criteria, the batch is acceptable.

METHOD BLANK

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except for the common laboratory contaminants indicated below.

Volatile (GC or GC/MS)	Semivolatile (GC/MS)	Metals
Methylene chloride	Phthalate Esters	Copper
Acetone		Iron
2-Butanone		Zinc
		Lead*

* *for analyses run on TJA Trace ICP or GFAA only*

QUALITY CONTROL ELEMENTS OF SW-846 METHODS
(Continued)

The listed volatile and semivolatile compounds may be present in concentrations up to 5 times the reporting limits. The listed metals may be present in concentrations up to 2 times the reporting limit or must be twenty fold less than the results of the environmental samples. Failure to meet these Method Blank criteria requires the reprepparation and reanalysis of all samples in the QC batch.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. When these values fail to meet acceptance criteria, the data is reviewed to determine the cause. If, in the analyst's judgment, sample matrix effects are indicated, no corrective action is performed. Otherwise, the MS/MSD and the environmental sample used to prepare them are reprepared and reanalyzed.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch.

SURROGATE COMPOUNDS

In addition to these batch-related QC indicators, each organic environmental and QC sample are spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

The acceptance criteria do not apply to samples that are diluted. All other surrogate recoveries will be reported. If the LCS, LCSD, or the Method Blank surrogates fail to meet recovery criteria (exception for dilutions), the entire batch of samples is reprepared and reanalyzed.

If the surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank and the associated sample(s) are ND, the batch is acceptable. If the surrogate recoveries are outside criteria for environmental or MS/MSD samples, the batch may be acceptable based on the analyst's judgment that sample matrix effects are indicated.

For the GC/MS BNA methods, the surrogate criteria is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide/PCB, PAH, TPH, and Herbicide methods, the surrogate criteria is that one of two surrogate compounds meet acceptance criteria.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A9I020127 **Work Order #...:** D25PM102 **Matrix.....:** SOLID
LCS Lot-Sample#: A9I070000-138
Prep Date.....: 09/07/99 **Analysis Date..:** 09/07/99
Prep Batch #...: 9250138
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
1,1-Dichloroethylene	**109**	**(76 - 128)**	**SW846 8260B**
Trichloroethylene	**95**	**(86 - 116)**	**SW846 8260B**
Chlorobenzene	**103**	**(88 - 119)**	**SW846 8260B**
Benzene	**108**	**(85 - 120)**	**SW846 8260B**
Toluene	**105**	**(86 - 118)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	93	(75 - 117)
Toluene-d8	101	(86 - 122)
Bromofluorobenzene	96	(60 - 137)
Dibromofluoromethane	99	(70 - 135)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A9I020127 Work Order #...: D2LL7102 Matrix.....: SOLID
LCS Lot-Sample#: A9I180000-107
Prep Date.....: 09/18/99 Analysis Date..: 09/22/99
Prep Batch #...: 9261107
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
1,4-Dichlorobenzene	**62**	**(34 - 113)**	**SW846 8270C**
2,4-Dinitrotoluene	**62**	**(41 - 154)**	**SW846 8270C**
Hexachlorobenzene	**86**	**(57 - 118)**	**SW846 8270C**
Hexachlorobutadiene	**71**	**(44 - 104)**	**SW846 8270C**
Hexachloroethane	**62**	**(39 - 96)**	**SW846 8270C**
Nitrobenzene	**74**	**(49 - 111)**	**SW846 8270C**
Pentachlorophenol	**31**	**(24 - 145)**	**SW846 8270C**
Pyridine	**49**	**(5.0- 99)**	**SW846 8270C**
2,4,5-Trichlorophenol	**62**	**(43 - 118)**	**SW846 8270C**
2,4,6-Trichlorophenol	**65**	**(45 - 102)**	**SW846 8270C**
o-Cresol	**65**	**(46 - 109)**	**SW846 8270C**
m-Cresol & p-Cresol	**62**	**(46 - 109)**	**SW846 8270C**
Cresols (total)	**63**	**(46 - 109)**	**SW846 8270C**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	74	(44 - 110)
2-Fluorobiphenyl	66	(50 - 105)
Terphenyl-d14	90	(11 - 158)
Phenol-d5	54	(10 - 131)
2-Fluorophenol	66	(10 - 130)
2,4,6-Tribromophenol	76	(10 - 156)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A9I020127 **Work Order #...:** D26JP102 **Matrix.....:** SOLID
LCS Lot-Sample#: A9I080000-149
Prep Date.....: 09/09/99 **Analysis Date..:** 09/14/99
Prep Batch #...: 9251149
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
1,4-Dichlorobenzene	**60**	**(34 - 113)**	**SW846 8270C**
2,4-Dinitrotoluene	**68**	**(41 - 154)**	**SW846 8270C**
Hexachlorobenzene	**90**	**(57 - 118)**	**SW846 8270C**
Hexachlorobutadiene	**66**	**(44 - 104)**	**SW846 8270C**
Hexachloroethane	**56**	**(39 - 96)**	**SW846 8270C**
Nitrobenzene	**74**	**(49 - 111)**	**SW846 8270C**
Pentachlorophenol	**30**	**(24 - 145)**	**SW846 8270C**
Pyridine	**55**	**(5.0- 99)**	**SW846 8270C**
2,4,5-Trichlorophenol	**57**	**(43 - 118)**	**SW846 8270C**
2,4,6-Trichlorophenol	**61**	**(45 - 102)**	**SW846 8270C**
o-Cresol	**57**	**(46 - 109)**	**SW846 8270C**
m-Cresol & p-Cresol	**56**	**(46 - 109)**	**SW846 8270C**
Cresols (total)	**56**	**(46 - 109)**	**SW846 8270C**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	72	(44 - 110)
2-Fluorobiphenyl	71	(50 - 105)
Terphenyl-d14	117	(11 - 158)
Phenol-d5	42	(10 - 131)
2-Fluorophenol	23	(10 - 130)
2,4,6-Tribromophenol	71	(10 - 156)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A9I020127 Work Order #...: D2615102 Matrix.....: SOLID
LCS Lot-Sample#: A9I070000-215
Prep Date.....: 09/08/99 Analysis Date..: 09/13/99
Prep Batch #...: 9250215
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
o-Cresol	73	(46 - 109)	SW846 8270C
m-Cresol & p-Cresol	72	(46 - 109)	SW846 8270C
1,4-Dichlorobenzene	64	(34 - 113)	SW846 8270C
2,4-Dinitrotoluene	77	(41 - 154)	SW846 8270C
Hexachlorobenzene	88	(57 - 118)	SW846 8270C
Hexachlorobutadiene	64	(44 - 104)	SW846 8270C
Hexachloroethane	61	(39 - 96)	SW846 8270C
Nitrobenzene	77	(49 - 111)	SW846 8270C
Pentachlorophenol	71	(24 - 145)	SW846 8270C
Pyridine	47	(5.0- 99)	SW846 8270C
2,4,5-Trichlorophenol	74	(43 - 118)	SW846 8270C
2,4,6-Trichlorophenol	72	(45 - 102)	SW846 8270C
Cresols (total)	73	(46 - 109)	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2,4,6-Tribromophenol	85	(10 - 156)
Nitrobenzene-d5	75	(44 - 110)
2-Fluorobiphenyl	75	(50 - 105)
Terphenyl-d14	100	(11 - 158)
Phenol-d5	58	(10 - 131)
2-Fluorophenol	31	(10 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: A9I020127 **Work Order #...:** D26JN102-LCS **Matrix.....:** SOLID
LCS Lot-Sample#: A9I080000-148 D26JN103-LCSD
Prep Date.....: 09/09/99 **Analysis Date..:** 09/14/99
Prep Batch #...: 9251148
Dilution Factor: 5

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Lindane	**96**	**(50 - 150)**			**SW846 8081A**
	82	**(50 - 150)**	**15**	**(0-50)**	**SW846 8081A**
Heptachlor	**96**	**(50 - 150)**			**SW846 8081A**
	87	**(50 - 150)**	**9.8**	**(0-50)**	**SW846 8081A**
Heptachlor epoxide	**93**	**(50 - 150)**			**SW846 8081A**
	84	**(50 - 150)**	**9.8**	**(0-50)**	**SW846 8081A**
Endrin	**107**	**(50 - 150)**			**SW846 8081A**
	99	**(50 - 150)**	**7.6**	**(0-50)**	**SW846 8081A**
Methoxychlor	**99**	**(50 - 150)**			**SW846 8081A**
	88	**(50 - 150)**	**12**	**(0-50)**	**SW846 8081A**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Decachlorobiphenyl	101	(60 - 150)
	91	(60 - 150)
Tetrachloro-m-xylene	92	(14 - 155)
	78	(14 - 155)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: A9I020127 **Work Order #...:** D260K102-LCS **Matrix.....:** SOLID
LCS Lot-Sample#: A9I070000-211 D260K103-LCSD
Prep Date.....: 09/08/99 **Analysis Date..:** 09/11/99
Prep Batch #...: 9250211
Dilution Factor: 5

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Lindane	**69**	**(50 - 150)**			**SW846 8081A**
	73	**(50 - 150)**	**5.6**	**(0-50)**	**SW846 8081A**
Heptachlor	**72**	**(50 - 150)**			**SW846 8081A**
	78	**(50 - 150)**	**6.7**	**(0-50)**	**SW846 8081A**
Heptachlor epoxide	**75**	**(50 - 150)**			**SW846 8081A**
	81	**(50 - 150)**	**7.7**	**(0-50)**	**SW846 8081A**
Endrin	**89**	**(50 - 150)**			**SW846 8081A**
	96	**(50 - 150)**	**8.1**	**(0-50)**	**SW846 8081A**
Methoxychlor	**156 a**	**(50 - 150)**			**SW846 8081A**
	118	**(50 - 150)**	**28**	**(0-50)**	**SW846 8081A**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Decachlorobiphenyl	82	(60 - 150)
	86	(60 - 150)
Tetrachloro-m-xylene	72	(14 - 155)
	75	(14 - 155)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

Bold print denotes control parameters

a Spiked analyte recovery is outside stated control limits.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: A9I020127 **Work Order #...:** D28WL102 **Matrix.....:** SOLID
LCS Lot-Sample#: A9I090000-314
Prep Date.....: 09/10/99 **Analysis Date..:** 09/17/99
Prep Batch #...: 9252314
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
2,4-D	78	(58 - 132)	**SW846 8151A**
2,4,5-TP (Silvex)	72	(25 - 122)	**SW846 8151A**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2,4-Dichlorophenylacetic acid	83	(53 - 168)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: A9I020127 **Work Order #...:** D28WT102 **Matrix.....:** SOLID
LCS Lot-Sample#: A9I090000-316
Prep Date.....: 09/10/99 **Analysis Date..:** 09/17/99
Prep Batch #...: 9252316
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
2,4-D	**79**	**(58 - 132)**	**SW846 8151A**
2,4,5-TP (Silvex)	**75**	**(25 - 122)**	**SW846 8151A**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2,4-Dichlorophenylacetic acid	70	(53 - 168)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TCLP Metals

Client Lot #...: A9I020127 **Matrix.....:** SOLID

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
LCS Lot-Sample#: A9I080000-209 **Prep Batch #...:** 9251209					
Silver	111	(50 - 150)	SW846 6010B	09/09-09/15/99	D26QV10A
		Dilution Factor: 1			
Mercury	91	(50 - 150)	SW846 7470A	09/09-09/10/99	D26QV10C
		Dilution Factor: 1			
Arsenic	104	(50 - 150)	SW846 6010B	09/09-09/15/99	D26QV10D
		Dilution Factor: 1			
Barium	103	(50 - 150)	SW846 6010B	09/09-09/15/99	D26QV10E
		Dilution Factor: 1			
Cadmium	106	(50 - 150)	SW846 6010B	09/09-09/15/99	D26QV10F
		Dilution Factor: 1			
Chromium	110	(50 - 150)	SW846 6010B	09/09-09/15/99	D26QV10G
		Dilution Factor: 1			
Lead	104	(50 - 150)	SW846 6010B	09/09-09/15/99	D26QV10H
		Dilution Factor: 1			
Selenium	103	(50 - 150)	SW846 6010B	09/09-09/15/99	D26QV109
		Dilution Factor: 1			
LCS Lot-Sample#: A9I090000-299 **Prep Batch #...:** 9252299					
Silver	105	(50 - 150)	SW846 6010B	09/10-09/15/99	D28PE10A
		Dilution Factor: 1			
Mercury	95	(50 - 150)	SW846 7470A	09/10-09/11/99	D28PE10C
		Dilution Factor: 1			
Arsenic	100	(50 - 150)	SW846 6010B	09/10-09/15/99	D28PE10D
		Dilution Factor: 1			
Barium	99	(50 - 150)	SW846 6010B	09/10-09/15/99	D28PE10E
		Dilution Factor: 1			
Cadmium	106	(50 - 150)	SW846 6010B	09/10-09/15/99	D28PE10F
		Dilution Factor: 1			

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LABORATORY CONTROL SAMPLE EVALUATION REPORT

TCLP Metals

Client Lot #...: A9I020127 **Matrix.....:** SOLID

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Chromium	112	(50 - 150)	SW846 6010B	09/10-09/15/99	D28PE10G
		Dilution Factor: 1			
Lead	102	(50 - 150)	SW846 6010B	09/10-09/15/99	D28PE10H
		Dilution Factor: 1			
Selenium	100	(50 - 150)	SW846 6010B	09/10-09/15/99	D28PE109
		Dilution Factor: 1			

NOTE(S):

Calculations are performed before rounding to avoid round off errors in calculated results.

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A9I020127 Work Order #...: D25PM101 Matrix.....: SOLID
MB Lot-Sample #: A9I070000-138

Prep Date.....: 09/07/99
Analysis Date..: 09/07/99 Prep Batch #...: 9250138
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Benzene	ND	0.025	mg/L	SW846 8260B
Chlorobenzene	ND	0.025	mg/L	SW846 8260B
1,1-Dichloroethylene	ND	0.070	mg/L	SW846 8260B
Trichloroethylene	ND	0.050	mg/L	SW846 8260B
Carbon tetrachloride	ND	0.025	mg/L	SW846 8260B
Chloroform	ND	0.025	mg/L	SW846 8260B
1,2-Dichloroethane	ND	0.025	mg/L	SW846 8260B
Methyl ethyl ketone	ND	20	mg/L	SW846 8260B
Tetrachloroethylene	ND	0.070	mg/L	SW846 8260B
Vinyl chloride	ND	0.050	mg/L	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	95	(75 - 117)
Toluene-d8	99	(86 - 122)
Bromofluorobenzene	98	(60 - 137)
Dibromofluoromethane	103	(70 - 135)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP GC/MS Semivolatiles

Client Lot #...: A9I020127 **Work Order #...:** D2LL7101 **Matrix.....:** SOLID
MB Lot-Sample #: A9I180000-107
Leach Date.....: 09/08/99 **Prep Date.....:** 09/18/99 **Analysis Date..:** 09/22/99
Leach Batch #..: P925102 **Prep Batch #...:** 9261107
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
o-Cresol	ND	0.050	mg/L	SW846 8270C
m-Cresol & p-Cresol	ND	0.10	mg/L	SW846 8270C
1,4-Dichlorobenzene	ND	0.050	mg/L	SW846 8270C
2,4-Dinitrotoluene	ND	0.050	mg/L	SW846 8270C
Hexachlorobenzene	ND	0.050	mg/L	SW846 8270C
Hexachlorobutadiene	ND	0.050	mg/L	SW846 8270C
Hexachloroethane	ND	0.050	mg/L	SW846 8270C
Nitrobenzene	ND	0.050	mg/L	SW846 8270C
Pentachlorophenol	ND	0.10	mg/L	SW846 8270C
Pyridine	ND	0.10	mg/L	SW846 8270C
2,4,5-Trichlorophenol	ND	0.050	mg/L	SW846 8270C
2,4,6-Trichlorophenol	ND	0.050	mg/L	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	69	(44 - 110)
2-Fluorobiphenyl	59	(50 - 105)
Terphenyl-d14	75	(11 - 158)
Phenol-d5	49	(10 - 131)
2-Fluorophenol	60	(10 - 130)
2,4,6-Tribromophenol	54	(10 - 156)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP GC/MS Semivolatiles

Client Lot #...: A9I020127 **Work Order #...:** D26JP101 **Matrix.....:** SOLID
MB Lot-Sample #: A9I080000-149
Leach Date.....: 09/08/99 **Prep Date.....:** 09/09/99 **Analysis Date..:** 09/14/99
Leach Batch #..: P925102 **Prep Batch #...:** 9251149
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
o-Cresol	ND	0.050	mg/L	SW846 8270C
m-Cresol & p-Cresol	ND	0.10	mg/L	SW846 8270C
1,4-Dichlorobenzene	ND	0.050	mg/L	SW846 8270C
2,4-Dinitrotoluene	ND	0.050	mg/L	SW846 8270C
Hexachlorobenzene	ND	0.050	mg/L	SW846 8270C
Hexachlorobutadiene	ND	0.050	mg/L	SW846 8270C
Hexachloroethane	ND	0.050	mg/L	SW846 8270C
Nitrobenzene	ND	0.050	mg/L	SW846 8270C
Pentachlorophenol	ND	0.10	mg/L	SW846 8270C
Pyridine	ND	0.10	mg/L	SW846 8270C
2,4,5-Trichlorophenol	ND	0.050	mg/L	SW846 8270C
2,4,6-Trichlorophenol	ND	0.050	mg/L	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	72	(44 - 110)
2-Fluorobiphenyl	73	(50 - 105)
Terphenyl-d14	110	(11 - 158)
Phenol-d5	58	(10 - 131)
2-Fluorophenol	52	(10 - 130)
2,4,6-Tribromophenol	76	(10 - 156)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP GC/MS Semivolatiles

Client Lot #...: A9I020127 **Work Order #...:** D2615101 **Matrix.....:** SOLID
MB Lot-Sample #: A9I070000-215
Leach Date.....: 09/04/99 **Prep Date.....:** 09/08/99 **Analysis Date..:** 09/13/99
Leach Batch #..: P924701 **Prep Batch #...:** 9250215
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
o-Cresol	ND	0.050	mg/L	SW846 8270C
m-Cresol & p-Cresol	ND	0.10	mg/L	SW846 8270C
1,4-Dichlorobenzene	ND	0.050	mg/L	SW846 8270C
2,4-Dinitrotoluene	ND	0.050	mg/L	SW846 8270C
Hexachlorobenzene	ND	0.050	mg/L	SW846 8270C
Hexachlorobutadiene	ND	0.050	mg/L	SW846 8270C
Hexachloroethane	ND	0.050	mg/L	SW846 8270C
Nitrobenzene	ND	0.050	mg/L	SW846 8270C
Pentachlorophenol	ND	0.10	mg/L	SW846 8270C
Pyridine	ND	0.10	mg/L	SW846 8270C
2,4,5-Trichlorophenol	ND	0.050	mg/L	SW846 8270C
2,4,6-Trichlorophenol	ND	0.050	mg/L	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	77	(44 - 110)
2-Fluorobiphenyl	75	(50 - 105)
Terphenyl-d14	108	(11 - 158)
Phenol-d5	62	(10 - 131)
2-Fluorophenol	41	(10 - 130)
2,4,6-Tribromophenol	84	(10 - 156)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP GC Semivolatiles

Client Lot #...: A9I020127 Work Order #...: D26JN101 Matrix.....: SOLID
MB Lot-Sample #: A9I080000-148
Leach Date.....: 09/08/99 Prep Date.....: 09/09/99 Analysis Date..: 09/14/99
Leach Batch #..: P925102 Prep Batch #...: 9251148
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Chlordane (technical)	ND	0.0050	mg/L	SW846 8081A
Endrin	ND	0.00050	mg/L	SW846 8081A
Heptachlor	ND	0.00050	mg/L	SW846 8081A
Heptachlor epoxide	ND	0.00050	mg/L	SW846 8081A
Lindane	ND	0.00050	mg/L	SW846 8081A
Methoxychlor	ND	0.0010	mg/L	SW846 8081A
Toxaphene	ND	0.020	mg/L	SW846 8081A

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Decachlorobiphenyl	86	(60 - 150)
Tetrachloro-m-xylene	81	(14 - 155)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP GC Semivolatiles

Client Lot #...: A9I020127 **Work Order #...:** D260K101 **Matrix.....:** SOLID
MB Lot-Sample #: A9I070000-211
Leach Date.....: 09/04/99 **Prep Date.....:** 09/08/99 **Analysis Date..:** 09/11/99
Leach Batch #..: P924701 **Prep Batch #...:** 9250211
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Chlordane (technical)	ND	0.0050	mg/L	SW846 8081A
Endrin	ND	0.00050	mg/L	SW846 8081A
Heptachlor	ND	0.00050	mg/L	SW846 8081A
Heptachlor epoxide	ND	0.00050	mg/L	SW846 8081A
Lindane	ND	0.00050	mg/L	SW846 8081A
Methoxychlor	ND	0.0010	mg/L	SW846 8081A
Toxaphene	ND	0.020	mg/L	SW846 8081A

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Decachlorobiphenyl	83	(60 - 150)
Tetrachloro-m-xylene	79	(14 - 155)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP GC Semivolatiles

Client Lot #...: A9I020127 **Work Order #...:** D28WL101 **Matrix.....:** SOLID
MB Lot-Sample #: A9I090000-314
Leach Date.....: 09/04/99 **Prep Date.....:** 09/10/99 **Analysis Date..:** 09/17/99
Leach Batch #..: P924701 **Prep Batch #...:** 9252314
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
2,4-D	ND	0.50	mg/L	SW846 8151A
2,4,5-TP (Silvex)	ND	0.10	mg/L	SW846 8151A

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2,4-Dichlorophenylacetic acid	81	(53 - 168)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP GC Semivolatiles

Client Lot #...: A9I020127 **Work Order #...:** D28WT101 **Matrix.....:** SOLID
MB Lot-Sample #: A9I090000-316
Leach Date.....: 09/08/99 **Prep Date.....:** 09/10/99 **Analysis Date..:** 09/17/99
Leach Batch #..: P925102 **Prep Batch #...:** 9252316
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
2,4-D	ND	0.50	mg/L	SW846 8151A
2,4,5-TP (Silvex)	ND	0.10	mg/L	SW846 8151A

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2,4-Dichlorophenylacetic acid	72	(53 - 168)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP Metals

Client Lot #...: A9I020127 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: A9I040000-101 **Prep Batch #...:** 9251209						
Leach Date.....: 09/04/99 **Leach Batch #..:** P924701						
Arsenic	ND	0.50	mg/L	SW846 6010B	09/09-09/15/99	D24XM104
		Dilution Factor: 1				
Barium	ND	10.0	mg/L	SW846 6010B	09/09-09/15/99	D24XM105
		Dilution Factor: 1				
Cadmium	ND	0.10	mg/L	SW846 6010B	09/09-09/15/99	D24XM106
		Dilution Factor: 1				
Chromium	ND	0.50	mg/L	SW846 6010B	09/09-09/15/99	D24XM107
		Dilution Factor: 1				
Lead	ND	0.50	mg/L	SW846 6010B	09/09-09/15/99	D24XM108
		Dilution Factor: 1				
Selenium	ND	0.25	mg/L	SW846 6010B	09/09-09/15/99	D24XM101
		Dilution Factor: 1				
Mercury	ND	0.0020	mg/L	SW846 7470A	09/09-09/10/99	D24XM103
		Dilution Factor: 1				
Silver	ND	0.50	mg/L	SW846 6010B	09/09-09/15/99	D24XM102
		Dilution Factor: 1				
MB Lot-Sample #: A9I080000-272 **Prep Batch #...:** 9252299						
Leach Date.....: 09/08/99 **Leach Batch #..:** P925102						
Arsenic	ND	0.50	mg/L	SW846 6010B	09/10-09/15/99	D2783104
		Dilution Factor: 1				
Barium	ND	10.0	mg/L	SW846 6010B	09/10-09/15/99	D2783105
		Dilution Factor: 1				
Cadmium	ND	0.10	mg/L	SW846 6010B	09/10-09/15/99	D2783106
		Dilution Factor: 1				
Chromium	ND	0.50	mg/L	SW846 6010B	09/10-09/15/99	D2783107
		Dilution Factor: 1				
Lead	ND	0.50	mg/L	SW846 6010B	09/10-09/15/99	D2783108
		Dilution Factor: 1				

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METHOD BLANK REPORT

TCLP Metals

Client Lot #...: A9I020127 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Selenium	ND	0.25	mg/L	SW846 6010B	09/10-09/15/99	D2783101
		Dilution Factor: 1				
Mercury	ND	0.0020	mg/L	SW846 7470A	09/10-09/11/99	D2783103
		Dilution Factor: 1				
Silver	ND	0.50	mg/L	SW846 6010B	09/10-09/15/99	D2783102
		Dilution Factor: 1				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP Metals

Client Lot #...: A9I020127 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: A9I030000-209 **Prep Batch #...:** 9251209						
Arsenic	ND	0.50	mg/L	SW846 6010B	09/09-09/15/99	D26QV104
		Dilution Factor: 1				
Barium	ND	10.0	mg/L	SW846 6010B	09/09-09/15/99	D26QV105
		Dilution Factor: 1				
Cadmium	ND	0.10	mg/L	SW846 6010B	09/09-09/15/99	D26QV106
		Dilution Factor: 1				
Chromium	ND	0.50	mg/L	SW846 6010B	09/09-09/15/99	D26QV107
		Dilution Factor: 1				
Lead	ND	0.50	mg/L	SW846 6010B	09/09-09/15/99	D26QV108
		Dilution Factor: 1				
Selenium	ND	0.25	mg/L	SW846 6010B	09/09-09/15/99	D26QV101
		Dilution Factor: 1				
Mercury	ND	0.0020	mg/L	SW846 7470A	09/09-09/10/99	D26QV103
		Dilution Factor: 1				
Silver	ND	0.50	mg/L	SW846 6010B	09/09-09/15/99	D26QV102
		Dilution Factor: 1				
MB Lot-Sample #: A9I090000-299 **Prep Batch #...:** 9252299						
Arsenic	ND	0.50	mg/L	SW846 6010B	09/10-09/15/99	D28PE104
		Dilution Factor: 1				
Barium	ND	10.0	mg/L	SW846 6010B	09/10-09/15/99	D28PE105
		Dilution Factor: 1				
Cadmium	ND	0.10	mg/L	SW846 6010B	09/10-09/15/99	D28PE106
		Dilution Factor: 1				
Chromium	ND	0.50	mg/L	SW846 6010B	09/10-09/15/99	D28PE107
		Dilution Factor: 1				
Lead	ND	0.50	mg/L	SW846 6010B	09/10-09/15/99	D28PE108
		Dilution Factor: 1				
Selenium	ND	0.25	mg/L	SW846 6010B	09/10-09/15/99	D28PE101
		Dilution Factor: 1				

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METHOD BLANK REPORT

TCLP Metals

Client Lot #...: A9I020127 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Mercury	ND	0.0020	mg/L	SW846 7470A	09/10-09/11/99	D28PE103
		Dilution Factor: 1				
Silver	ND	0.50	mg/L	SW846 6010B	09/10-09/15/99	D28PE102
		Dilution Factor: 1				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: A9I020127 **Matrix.....:** WASTE

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Reactive Cyanide		Work Order #: D2MAX101		MB Lot-Sample #:	A9I190000-118	
	ND	200	mg/kg	SW846 7.3.3	09/14-09/19/99	9262118
		Dilution Factor: 1				
Reactive Sulfide		Work Order #: D2MAV101		MB Lot-Sample #:	A9I190000-116	
	ND	200	mg/kg	SW846 7.3.4	09/14-09/19/99	9262116
		Dilution Factor: 1				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TCLP GC/MS Volatiles

Client Lot #...: A9I020127 Work Order #...: D22LX102-MS Matrix.....: SOLID
MS Lot-Sample #: A9I020177-001 D22LX103-MSD
Date Sampled...: 09/01/99 14:04 Date Received..: 09/02/99
Leach Date.....: 09/03/99 Prep Date.....: 09/07/99 Analysis Date..: 09/07/99
Leach Batch #..: P924508 Prep Batch #...: 9250138
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
1,1-Dichloroethylene	100	(75 - 131)			SW846 8260B
	101	(75 - 131)	1.1	(0-17)	SW846 8260B
Trichloroethylene	93	(78 - 121)			SW846 8260B
	95	(78 - 121)	1.8	(0-17)	SW846 8260B
Chlorobenzene	96	(76 - 122)			SW846 8260B
	101	(76 - 122)	5.0	(0-22)	SW846 8260B
Benzene	103	(84 - 121)			SW846 8260B
	107	(84 - 121)	4.0	(0-13)	SW846 8260B
Toluene	96	(79 - 129)			SW846 8260B
	99	(79 - 129)	2.4	(0-23)	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	90	(75 - 117)
	92	(75 - 117)
Toluene-d8	95	(86 - 122)
	100	(86 - 122)
Bromofluorobenzene	98	(60 - 137)
	101	(60 - 137)
Dibromofluoromethane	98	(70 - 135)
	97	(70 - 135)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

TCLP GC/MS Semivolatiles

Client Lot #...: A9I020127 Work Order #...: D225A10L-MS Matrix.....: SOLID
MS Lot-Sample #: A9I020127-004 D225A10M-MSD
Date Sampled...: 08/26/99 16:00 Date Received..: 09/02/99
Leach Date.....: 09/08/99 Prep Date.....: 09/09/99 Analysis Date..: 09/14/99
Leach Batch #..: P925102 Prep Batch #...: 9251149
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
o-Cresol	69	(46 - 109)			SW846 8270C
	45 a,p	(46 - 109)	41	(0-32)	SW846 8270C
m-Cresol & p-Cresol	69	(46 - 109)			SW846 8270C
	45 a,p	(46 - 109)	43	(0-32)	SW846 8270C
1,4-Dichlorobenzene	63	(34 - 105)			SW846 8270C
	42 p	(34 - 105)	41	(0-21)	SW846 8270C
2,4-Dinitrotoluene	73	(10 - 154)			SW846 8270C
	48	(10 - 154)	41	(0-42)	SW846 8270C
Hexachlorobenzene	95	(33 - 123)			SW846 8270C
	63 p	(33 - 123)	40	(0-23)	SW846 8270C
Hexachlorobutadiene	66	(27 - 107)			SW846 8270C
	45 p	(27 - 107)	38	(0-24)	SW846 8270C
Hexachloroethane	58	(24 - 107)			SW846 8270C
	39 p	(24 - 107)	38	(0-20)	SW846 8270C
Nitrobenzene	79	(40 - 118)			SW846 8270C
	54 p	(40 - 118)	37	(0-25)	SW846 8270C
Pentachlorophenol	48	(10 - 148)			SW846 8270C
	29	(10 - 148)	48	(0-75)	SW846 8270C
Pyridine	55	(22 - 96)			SW846 8270C
	39	(22 - 96)	34	(0-52)	SW846 8270C
2,4,5-Trichlorophenol	67	(25 - 136)			SW846 8270C
	42	(25 - 136)	46	(0-62)	SW846 8270C
2,4,6-Trichlorophenol	73	(20 - 127)			SW846 8270C
	47	(20 - 127)	44	(0-55)	SW846 8270C
Cresols (total)	69	(22 - 115)			SW846 8270C
	45	(22 - 115)	42	(0-43)	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	76	(44 - 110)
	53	(44 - 110)
2-Fluorobiphenyl	77	(50 - 105)
	52	(50 - 105)
Terphenyl-d14	127	(11 - 158)
	88	(11 - 158)
Phenol-d5	59	(10 - 131)
	35	(10 - 131)
2-Fluorophenol	47	(10 - 130)
	18	(10 - 130)

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MATRIX SPIKE SAMPLE EVALUATION REPORT

TCLP GC/MS Semivolatiles

Client Lot #...: A9I020127 **Work Order #...:** D225A10L-MS **Matrix.....:** SOLID
MS Lot-Sample #: A9I020127-004 D225A10M-MSD

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2,4,6-Tribromophenol	80	(10 - 156)
	50	(10 - 156)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

a Spiked analyte recovery is outside stated control limits.

p Relative percent difference (RPD) is outside stated control limits.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TCLP GC/MS Semivolatiles

Client Lot #...: A9I020127 Work Order #...: D225210L-MS Matrix.....: SOLID
MS Lot-Sample #: A9I020127-001 D225210M-MSD
Date Sampled...: 08/23/99 14:00 Date Received..: 09/02/99
Leach Date.....: 09/04/99 Prep Date.....: 09/08/99 Analysis Date..: 09/13/99
Leach Batch #..: P924701 Prep Batch #...: 9250215
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
o-Cresol	37 a	(46 - 109)			SW846 8270C
	55 p	(46 - 109)	40	(0-32)	SW846 8270C
m-Cresol & p-Cresol	47	(46 - 109)			SW846 8270C
	59	(46 - 109)	22	(0-32)	SW846 8270C
1,4-Dichlorobenzene	65	(34 - 105)			SW846 8270C
	62	(34 - 105)	4.8	(0-21)	SW846 8270C
2,4-Dinitrotoluene	78	(10 - 154)			SW846 8270C
	76	(10 - 154)	2.8	(0-42)	SW846 8270C
Hexachlorobenzene	89	(33 - 123)			SW846 8270C
	89	(33 - 123)	0.65	(0-23)	SW846 8270C
Hexachlorobutadiene	67	(27 - 107)			SW846 8270C
	63	(27 - 107)	5.2	(0-24)	SW846 8270C
Hexachloroethane	63	(24 - 107)			SW846 8270C
	59	(24 - 107)	7.3	(0-20)	SW846 8270C
Nitrobenzene	78	(40 - 118)			SW846 8270C
	75	(40 - 118)	4.7	(0-25)	SW846 8270C
Pentachlorophenol	75	(10 - 148)			SW846 8270C
	72	(10 - 148)	5.0	(0-75)	SW846 8270C
Pyridine	46	(22 - 96)			SW846 8270C
	38	(22 - 96)	19	(0-52)	SW846 8270C
2,4,5-Trichlorophenol	75	(25 - 136)			SW846 8270C
	73	(25 - 136)	2.6	(0-62)	SW846 8270C
2,4,6-Trichlorophenol	72	(20 - 127)			SW846 8270C
	71	(20 - 127)	0.97	(0-55)	SW846 8270C
Cresols (total)	44	(22 - 115)			SW846 8270C
	58	(22 - 115)	28	(0-43)	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	77	(44 - 110)
	74	(44 - 110)
2-Fluorobiphenyl	77	(50 - 105)
	74	(50 - 105)
Terphenyl-d14	116	(11 - 158)
	111	(11 - 158)
Phenol-d5	58	(10 - 131)
	52	(10 - 131)
2-Fluorophenol	38	(10 - 130)
	26	(10 - 130)

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MATRIX SPIKE SAMPLE EVALUATION REPORT

TCLP GC/MS Semivolatiles

Client Lot #...: A9I020127 **Work Order #...:** D225210L-MS **Matrix.....:** SOLID
MS Lot-Sample #: A9I020127-001 D225210M-MSD

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2,4,6-Tribromophenol	80	(10 - 156)
	80	(10 - 156)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

p Relative percent difference (RPD) is outside stated control limits.

a Spiked analyte recovery is outside stated control limits.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A9I020127 Work Order #...: D225710M-MS Matrix.....: SOLID
MS Lot-Sample #: A9I020127-003 D225710N-MSD
Date Sampled...: 08/25/99 17:00 Date Received..: 09/02/99
Prep Date.....: 09/18/99 Analysis Date..: 09/22/99
Prep Batch #...: 9261107
Dilution Factor: 1 % Moisture.....:

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
o-Cresol	10 a	(46 - 109)			SW846 8270C
	10 a	(46 - 109)	2.7	(0-32)	SW846 8270C
m-Cresol & p-Cresol	12 a	(46 - 109)			SW846 8270C
	11 a	(46 - 109)	7.2	(0-32)	SW846 8270C
1,4-Dichlorobenzene	55	(34 - 105)			SW846 8270C
	52	(34 - 105)	5.2	(0-21)	SW846 8270C
2,4-Dinitrotoluene	49	(10 - 154)			SW846 8270C
	51	(10 - 154)	3.0	(0-42)	SW846 8270C
Hexachlorobenzene	70	(33 - 123)			SW846 8270C
	69	(33 - 123)	1.5	(0-23)	SW846 8270C
Hexachlorobutadiene	61	(27 - 107)			SW846 8270C
	57	(27 - 107)	5.9	(0-24)	SW846 8270C
Hexachloroethane	58	(24 - 107)			SW846 8270C
	55	(24 - 107)	5.2	(0-20)	SW846 8270C
Nitrobenzene	63	(40 - 118)			SW846 8270C
	61	(40 - 118)	3.2	(0-25)	SW846 8270C
Pentachlorophenol	31	(10 - 148)			SW846 8270C
	39	(10 - 148)	24	(0-75)	SW846 8270C
Pyridine	41	(22 - 96)			SW846 8270C
	39	(22 - 96)	5.3	(0-52)	SW846 8270C
2,4,5-Trichlorophenol	27	(25 - 136)			SW846 8270C
	31	(25 - 136)	15	(0-62)	SW846 8270C
2,4,6-Trichlorophenol	31	(20 - 127)			SW846 8270C
	33	(20 - 127)	5.6	(0-55)	SW846 8270C
Cresols (total)	11 a	(22 - 115)			SW846 8270C
	11 a	(22 - 115)	5.8	(0-43)	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	65	(44 - 110)
	63	(44 - 110)
2-Fluorobiphenyl	54	(50 - 105)
	55	(50 - 105)
Terphenyl-d14	70	(11 - 158)
	70	(11 - 158)
Phenol-d5	12	(10 - 131)
	11	(10 - 131)
2-Fluorophenol	13	(10 - 130)
	12	(10 - 130)

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MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A9I020127 **Work Order #...:** D225710M-MS **Matrix.....:** SOLID
MS Lot-Sample #: A9I020127-003 D225710N-MSD

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2,4,6-Tribromophenol	36	(10 - 156)
	38	(10 - 156)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

a Spiked analyte recovery is outside stated control limits.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TCLP GC Semivolatiles

Client Lot #...: A9I020127 **Work Order #...:** D2252117-MS **Matrix.....:** SOLID
MS Lot-Sample #: A9I020127-001 D2252118-MSD
Date Sampled...: 08/23/99 14:00 **Date Received..:** 09/02/99
Leach Date.....: 09/04/99 **Prep Date.....:** 09/10/99 **Analysis Date..:** 09/17/99
Leach Batch #..: P924701 **Prep Batch #...:** 9252314
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
2,4-D	86	(39 - 138)			**SW846 8151A**
	85	(39 - 138)	1.4	(0-20)	**SW846 8151A**
2,4,5-TP (Silvex)	81	(43 - 102)			**SW846 8151A**
	78	(43 - 102)	3.2	(0-18)	**SW846 8151A**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2,4-Dichlorophenylacetic acid	78	(53 - 168)
	79	(53 - 168)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

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MATRIX SPIKE SAMPLE EVALUATION REPORT

TCLP GC Semivolatiles

Client Lot #...:	A9I020127	**Work Order #...:**	D2256115-MS	**Matrix.....:**	SOLID
MS Lot-Sample #:	A9I020127-002		D2256116-MSD		
Date Sampled...:	08/24/99 11:00	**Date Received..:**	09/02/99		
Leach Date.....:	09/08/99	**Prep Date.....:**	09/10/99	**Analysis Date..:**	09/17/99
Leach Batch #..:	P925102	**Prep Batch #...:**	9252316		
Dilution Factor:	1				

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
2,4-D	79	(39 - 138)			SW846 8151A
	78	(39 - 138)	1.4	(0-20)	SW846 8151A
2,4,5-TP (Silvex)	75	(43 - 102)			SW846 8151A
	78	(43 - 102)	4.1	(0-18)	SW846 8151A

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2,4-Dichlorophenylacetic acid	75	(53 - 168)
	75	(53 - 168)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

TCLP Metals

Client Lot #...: A9I020127 **Matrix.....:** SOLID
Date Sampled...: 08/23/99 14:00 **Date Received..:** 09/02/99

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: A9I020127-001 **Prep Batch #...:** 9251209							
Leach Date.....: 09/04/99 **Leach Batch #..:** P924701							
Arsenic	104	(50 - 150)			SW846 6010B	09/09-09/15/99	D225210V
	104	(50 - 150)	0.48	(0-20)	SW846 6010B	09/09-09/15/99	D225210W
		Dilution Factor: 1					
Barium	99	(50 - 150)			SW846 6010B	09/09-09/15/99	D225210X
	98	(50 - 150)	0.70	(0-20)	SW846 6010B	09/09-09/15/99	D2252110
		Dilution Factor: 1					
Cadmium	100	(50 - 150)			SW846 6010B	09/09-09/15/99	D2252111
	99	(50 - 150)	0.76	(0-20)	SW846 6010B	09/09-09/15/99	D2252112
		Dilution Factor: 1					
Chromium	100	(50 - 150)			SW846 6010B	09/09-09/15/99	D2252113
	100	(50 - 150)	0.52	(0-20)	SW846 6010B	09/09-09/15/99	D2252114
		Dilution Factor: 1					
Lead	100	(50 - 150)			SW846 6010B	09/09-09/15/99	D2252115
	99	(50 - 150)	1.0	(0-20)	SW846 6010B	09/09-09/15/99	D2252116
		Dilution Factor: 1					
Selenium	112	(50 - 150)			SW846 6010B	09/09-09/15/99	D225210N
	111	(50 - 150)	1.6	(0-20)	SW846 6010B	09/09-09/15/99	D225210P
		Dilution Factor: 1					
Mercury	91	(50 - 150)			SW846 7470A	09/09-09/10/99	D225210T
	87	(50 - 150)	4.1	(0-20)	SW846 7470A	09/09-09/10/99	D225210U
		Dilution Factor: 1					
Silver	100	(50 - 150)			SW846 6010B	09/09-09/15/99	D225210Q
	100	(50 - 150)	0.52	(0-20)	SW846 6010B	09/09-09/15/99	D225210R
		Dilution Factor: 1					

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TCLP Metals

Client Lot #...: A9I020127 **Matrix.....:** SOLID
Date Sampled...: 08/24/99 11:00 **Date Received..:** 09/02/99

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: A9I020127-002 **Prep Batch #...:** 9252299							
Leach Date.....: 09/08/99 **Leach Batch #..:** P925102							
Arsenic	105	(50 - 150)			SW846 6010B	09/10-09/15/99	D225610T
	104	(50 - 150)	0.82	(0-20)	SW846 6010B	09/10-09/15/99	D225610U
		Dilution Factor: 1					
Barium	99	(50 - 150)			SW846 6010B	09/10-09/15/99	D225610V
	99	(50 - 150)	0.36	(0-20)	SW846 6010B	09/10-09/15/99	D225610W
		Dilution Factor: 1					
Cadmium	101	(50 - 150)			SW846 6010B	09/10-09/15/99	D225610X
	101	(50 - 150)	0.22	(0-20)	SW846 6010B	09/10-09/15/99	D2256110
		Dilution Factor: 1					
Chromium	102	(50 - 150)			SW846 6010B	09/10-09/15/99	D2256111
	101	(50 - 150)	0.66	(0-20)	SW846 6010B	09/10-09/15/99	D2256112
		Dilution Factor: 1					
Lead	100	(50 - 150)			SW846 6010B	09/10-09/15/99	D2256113
	100	(50 - 150)	0.13	(0-20)	SW846 6010B	09/10-09/15/99	D2256114
		Dilution Factor: 1					
Selenium	114	(50 - 150)			SW846 6010B	09/10-09/15/99	D225610L
	118	(50 - 150)	2.9	(0-20)	SW846 6010B	09/10-09/15/99	D225610M
		Dilution Factor: 1					
Mercury	90	(50 - 150)			SW846 7470A	09/10-09/11/99	D225610Q
	93	(50 - 150)	3.0	(0-20)	SW846 7470A	09/10-09/11/99	D225610R
		Dilution Factor: 1.					
Silver	99	(50 - 150)			SW846 6010B	09/10-09/15/99	D225610N
	100	(50 - 150)	0.68	(0-20)	SW846 6010B	09/10-09/15/99	D225610P
		Dilution Factor: 1					

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: A9I020127 **Work Order #...:** D223W-SMP D223W-DUP **Matrix.....:** WASTE

Date Sampled...: 08/31/99 12:00 **Date Received..:** 09/01/99

% Moisture.....: 100

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Reactive Sulfide						SD Lot-Sample #: A9I020121-001		
	ND	ND	mg/kg	0	(0-20)	SW846 7.3.4	09/14-09/19/99	9262116
		Dilution Factor: 1						
Reactive Cyanide						SD Lot-Sample #: A9I020121-001		
	ND	ND	mg/kg	0	(0-20)	SW846 7.3.3	09/14-09/19/99	9262118
		Dilution Factor: 1						

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: A9I020127 **Work Order #...:** D2256-SMP D2256-DUP **Matrix.....:** SOLID

Date Sampled...: 08/24/99 11:00 **Date Received..:** 09/02/99

% Moisture.....:

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Reactive Cyanide						SD Lot-Sample #: A9I020127-002		
	ND	ND	mg/kg	0	(0-20)	SW846 7.3.3	09/14-09/19/99	9262118
		Dilution Factor: 1						
Reactive Sulfide						SD Lot-Sample #: A9I020127-002		
	ND	ND	mg/kg	0	(0-20)	SW846 7.3.4	09/14-09/19/99	9262116
		Dilution Factor: 1						
pH (solid)						SD Lot-Sample #: A9I020127-002		
	8.8	8.8	No Units	0.23	(0-20)	SW846 9045C	09/02/99	9252464
		Dilution Factor: 1						

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: A9I020127 **Work Order #...:** D24MP-SMP **Matrix.....:** SOLID
D24MP-DUP
Date Sampled...: 08/27/99 11:00 **Date Received..:** 09/03/99
% Moisture.....: 13

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Flashpoint						SD Lot-Sample #: A9I030238-001		
	>180	>180	deg F	0.0	(0-20)	SW846 1010	09/22/99	9265406

Dilution Factor: 1

PSARA TECHNOLOGIES, INC.

CHAIN OF CUSTODY

A 2664

PSARA Project No.	6008.11
Project Manager	Rich Stuck
Sampled By	Tim O'Dowd
Turnaround:	[X] Standard [ ] Rush
Date Results Required:	9-16-99

Lab Name	Quanterra
Street Address	4101 Shuffle Drive N.W
City, State, Zip Code	North Canton, OH
Phone No.	(330) 966-7890

SAMPLE IDENTIFICATION	DATE	TIME	COMP.	GRAB	SAMPLE TYPE (MATRIX)	NUMBER OF CONTAINERS	ANALYSIS REQUESTED: Full TCLP	LABEL NUMBERS
8.11-001	8-23	1400	X		Soil	1	X	MW-2
8.11-002	8-24	1100	X		"	1	X	MW-3
8.11-003	8-25	1700	X		"	1	X	MW-4 & MW-5
8.11-004	8-26	1600	X		"	1	X	MW-6

CHAIN OF CUSTODY	DATE	TIME
Relinquished by: Tim O'Dowd	9-1-99	1515
Received by:		
Relinquished by:		
Received by:		
Relinquished by:		
Received by:		

SHIPPING INFORMATION	
Name of Carrier	Received at lab by: Jennifer Lloyd
Airbill No.	Date: 090999 Time: 10:20A

Comments/Special Instructions: ATTN: Jeff Smith

OEPA - SWDO mod order 557-89, Randy Wittenwirth

PSARA TECHNOLOGIES, INC. 10925 Reed Hartman Highway • Suite 220 • Cincinnati, Ohio 45242 • (513) 791-4418 • Fax (513) 791-5797

WHITE - Accompanies Samples
YELLOW - Laboratory Copy
PINK - Office/Field Copy